

Welltech

WellGate 2608

8-FXS port Gateway

(SIP)

User Manual



Revision Information		
Version	Date	Description
EN-V1.00	Jul-30-2007	1 st English Version

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Introduction

WellGate™ 2608 8-ports Telephony Gateway

The WellGate™ 2608 is an 8-ports FXS VoIP gateway to connect 8 analog phones (POTS) and includes 1-WAN/4-LAN 10/100 base-T NAT router for diverse network environment. Field-proven quality of Voice communication and Fax transmission over IP broadband access network to makes WellGate™ 2608 to be an excellent solution for various VoIP applications.

Benefits:

- Ideally suited for Enterprise use, rich-feature designed to inter-work with IP-PBXs for small and middle enterprises.
- Carrier-grade features are supported and tested to be fully interoperable with leading Soft-Switches.
- Provide CDR for call shop application.
- Superb device for apartment VoIP service.

Physical Interface:

- Ethernet port (RJ-45, 10/100 base-T)
 - 1-WAN port, for connect to router, ADSL modem (ATU-R), or switch hub directly.
 - 4-LAN port, for PC or other network devices connecting.
- Telephony port (RJ-11)
 - 8-FXS ports, to connect with analog phone (POTS)
- Reset button (Factory Default)
- AC power Jack
- Status indicated LED
 - Indicates Ethernet, FXS, and SIP system status

Specification:

● IP Network connection

- IPv4 (RFC 791)
- MAC Address (IEEE 802.3)
- PPPoE Client (RFC 2516)
- DNS Client
- DHCP Client (RFC 2131)
- DHCP Server (RFC 2131)
- NAT (RFC 1631)
- TCP/UDP (RFC 793/768)
- ICMP (RFC 792)
- RTP/RTCP (RFC 1889/1890)
- SNTP (RFC 2030)
- TFTP Client
- Telnet Server
- HTTP Server
- QoS – 802.1Q Virtual LANs
- DiffServ (RFC 2475) / ToS (RFC 791/1349)

● IP Telephony (VoIP)

- SIPv2 (RFC 3261)
 - Session Timer (RFC 4028)
 - Privacy Mechanism (RFC 3323)
 - Outbound proxy setting for increasing performance, productivity, and security.
 - SIP proxy redundancy- Setting Primary and Secondary proxy by IP or URI.
- Voice Codecs
 - G.711 (a-Law/u-Law): 64 bits (PCM)
 - G.723.1: 6.3k/5.3k bits
 - G.729A: 8k bits (CS-SCELP)
 - G.729B: adds VAD and CNG to G.729
- VAD – Voice Activity Detection with Silence Suppression
- CNG – Comfortable Noise Generation
- Echo Cancellation (G.165/G.168)
- Jitter Buffer – Adaptive & Configurable
- Packet Loss compensation - increasing voice quality
- DTMF: In-band, Out-of-band (RFC 2833), and SIP-Info
- Caller Generation – FSK

- FAX transmission
 - G.711 pass-through
 - T.38 Fax relay protocol
- Tone Generation & Detection
 - Ringing Tone
 - Ring Back Tone
 - Dial Tone
 - Programming Tone
- Call Features
 - Call Hold
 - Call Transfer (Blind & consultant)
 - Call Forward (Unconditional / No Answer / Busy)
 - Call Conference (3-ways)
- MWI – Message Waiting Indication
- IP line hunting
- Adjustable volume level
- **Security**
 - HTTP 1.1 basic/digest authentication for WEB access
 - MD5 for SIP authentication (RFC 2069/2617)
 - Password protected Admin access authority

Setting and maintenance

- Configure & Update method
 - Web Browser (HTTP)
 - Telnet
 - FTP/TFTP
- Setting parameter Import /Export
- Voice announcement of IP address
- Syslog Client – Debug & CDR (Call Detail Record)

Environmental

- Dimension: 35 × 242 × 160 mm (Desktop)
- Weight: 0.935kg (unit)
- Operating Temp. & Humidity
 - Temp.: 0°C ~ 45°C (32°F ~ 113°F)
 - Humidity: 10% ~ 85% relative humidity, non-condensing
- Storage Temp. & Humidity
 - Temp.: 0°C ~ 55°C (32°F ~ 131°F)

- Humidity: 10%~95% relative humidity, non-condensing
- AC Power Adaptor:
 - INPUT: AC100V-240V, 50/60Hz
 - OUTPUT: DC 12V, 3.0A
- Regulatory Compliance: FCC (Part 15, Class B) & CE

Appearance

1. Front Panel: LED Indicators



LED	Description
Power	When the power adapter is connected, the LED will light up green.
Proxy	When the gateway is registered successfully to a Proxy, this will light up green.
WAN	This will light up green when the gateway's WAN port is physically connected to the public internet. When data is transmitted through this port, it will flash green.
LAN 1	This will light up green when the gateway's LAN port 1 is physically connected to a local network (Refer to Rear Panel section in page number for location of LAN port 1). When data is transmitted through this port, it will flash green.
LAN 2	This will light up green when the gateway's LAN port 1 is physically connected to a local network (Refer to Rear Panel section in page number for location of LAN port 2). When data is transmitted through this port, it will flash green.
LAN 3	This will light up green when the gateway's LAN port 1 is physically

	connected to a local network (Refer to Rear Panel section in page number for location of LAN port 3). When data is transmitted through this port, it will flash green.
LAN 4	This will light up green when the gateway's LAN port 1 is physically connected to a local network (Refer to Rear Panel section in page number for location of LAN port 4). When data is transmitted through this port, it will flash green.
T1	The status LED for FXS port 1, this will light up amber orange when the connected phone's handset is lifted, or when the connected phone is engaged in a conversation. It will flash amber orange when there is an incoming call.
T2	The status LED for FXS port 2, this will light up amber orange when the connected phone's handset is lifted, or when the connected phone is engaged in a conversation. It will flash amber orange when there is an incoming call.
T3	The status LED for FXS port 3, this will light up amber orange when the connected phone's handset is lifted, or when the connected phone is engaged in a conversation. It will flash amber orange when there is an incoming call.
T4	The status LED for FXS port 4, this will light up amber orange when the connected phone's handset is lifted, or when the connected phone is engaged in a conversation. It will flash amber orange when there is an incoming call.
T5	The status LED for FXS port 5, this will light up amber orange when the

	connected phone's handset is lifted, or when the connected phone is engaged in a conversation. It will flash amber orange when there is an incoming call.
T6	The status LED for FXS port 6, this will light up amber orange when the connected phone's handset is lifted, or when the connected phone is engaged in a conversation. It will flash amber orange when there is an incoming call.
T7	The status LED for FXS port 7, this will light up amber orange when the connected phone's handset is lifted, or when the connected phone is engaged in a conversation. It will flash amber orange when there is an incoming call.
T8	The status LED for FXS port 8, this will light up amber orange when the connected phone's handset is lifted, or when the connected phone is engaged in a conversation. It will flash amber orange when there is an incoming call.

2. Rear Panel: LED Indicators



Item	Description
Reset	Press and hold over 3 seconds to reload factory default setting, this will erase all the settings configured on the gateway.

T8	The RJ-11 FXS port 8, connects analog phone sets, trunk line or PABX.
T7	The RJ-11 FXS port 7, connects analog phone sets, trunk line or PABX.
T6	The RJ-11 FXS port 6, connects analog phone sets, trunk line or PABX.
T5	The RJ-11 FXS port 5, connects analog phone sets, trunk line or PABX.
T4	The RJ-11 FXS port 4, connects analog phone sets, trunk line or PABX.
T3	The RJ-11 FXS port 3, connects analog phone sets, trunk line or PABX.
T2	The RJ-11 FXS port 2, connects analog phone sets, trunk line or PABX.
T1	The RJ-11 FXS port 1, connects analog phone sets, trunk line or PABX.
LAN 4	10/100 Base-T RJ-45 socket for LAN port 4, connects to local area network.
LAN 3	10/100 Base-T RJ-45 socket for LAN port 3, connects to local area network.
LAN 2	10/100 Base-T RJ-45 socket for LAN port 2, connects to local area network.
LAN 1	10/100 Base-T RJ-45 socket for LAN port 1, connects to local area network.
WAN	10/100 Base-T RJ-45 socket for WAN port, connects to wide area network.
DC 12V	The power socket, input AC 100V~120V; output DC12V.

Environment Setup and IP Connection

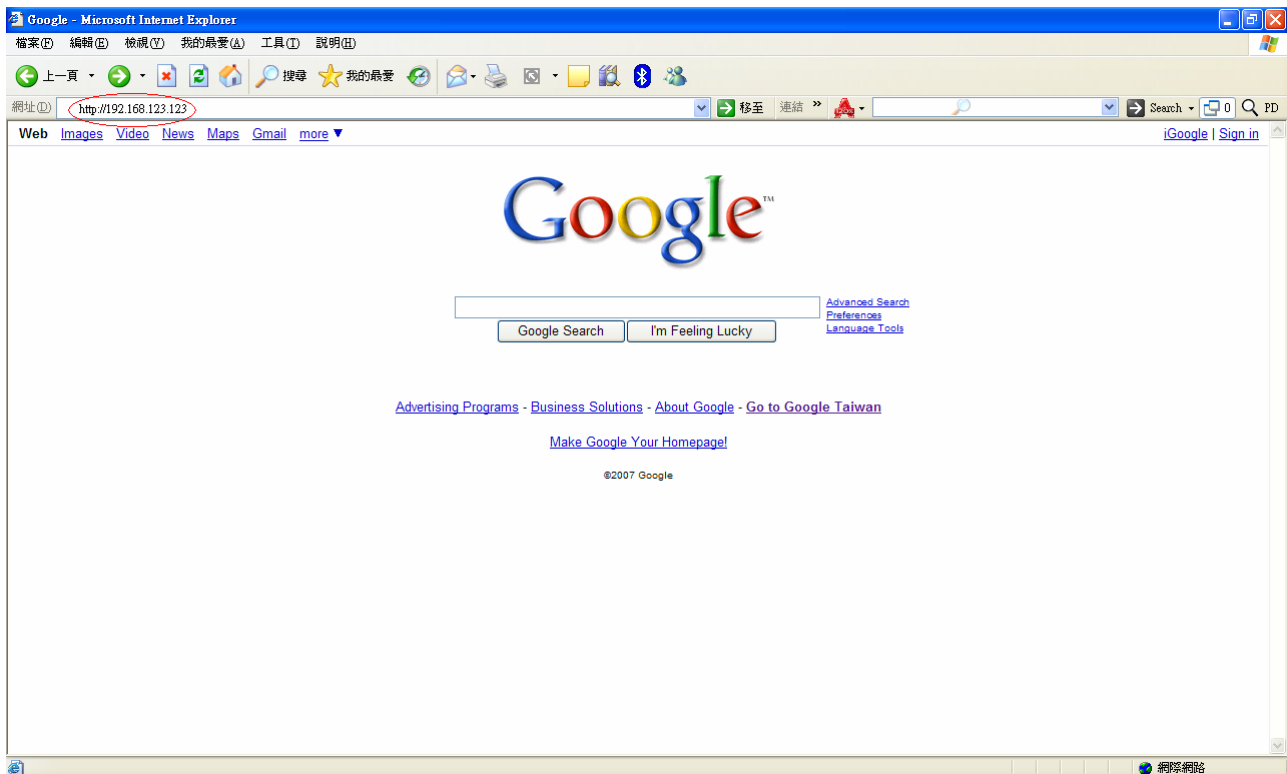
Please make sure that the network interface of your computer is working fine and the **cross over line** (RJ-45) is connected to the computer correctly. You can also connect your computer to the gateway using a **hub**.

The WG2608 by default uses DHCP for its LAN port and assigns IP addresses to clients connected to it, please make sure that your PC or Notebook's network configuration is set to DHCP.

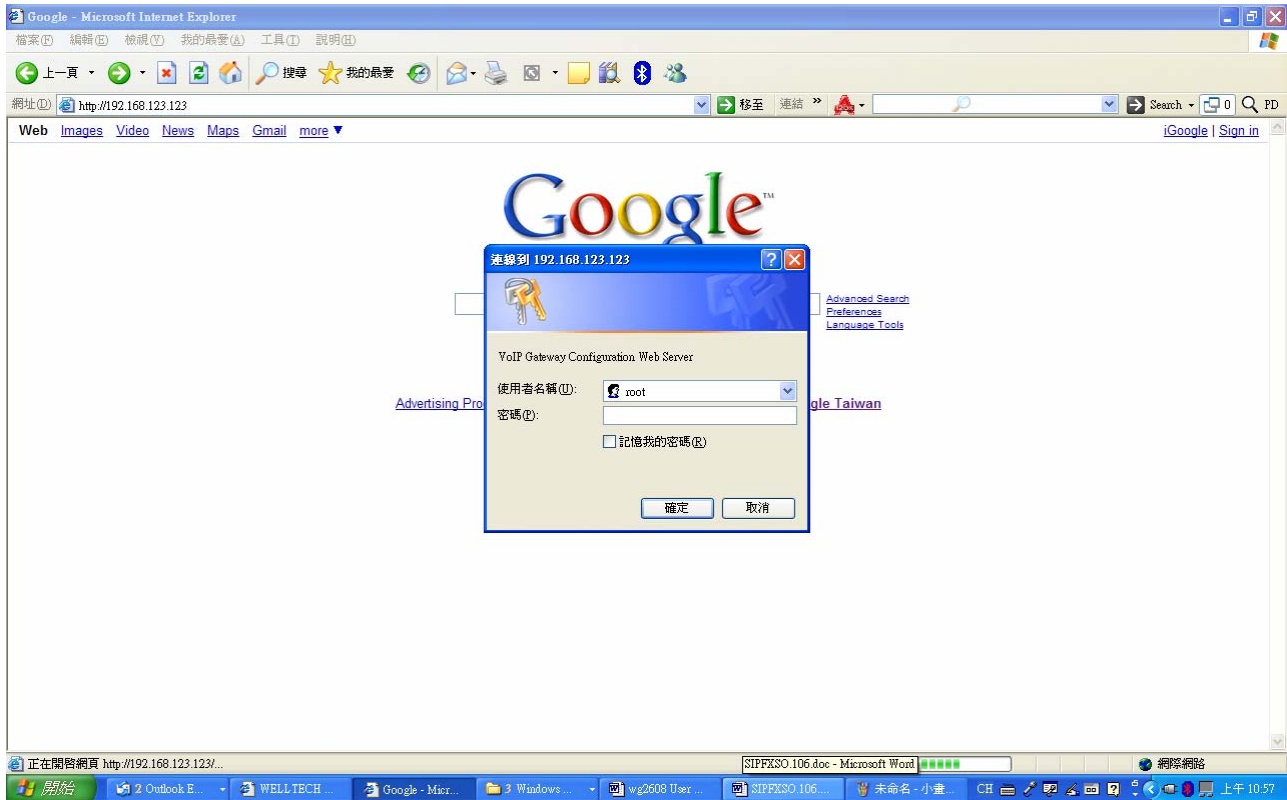
Configuration

Login to the WG2608 web configuration menu

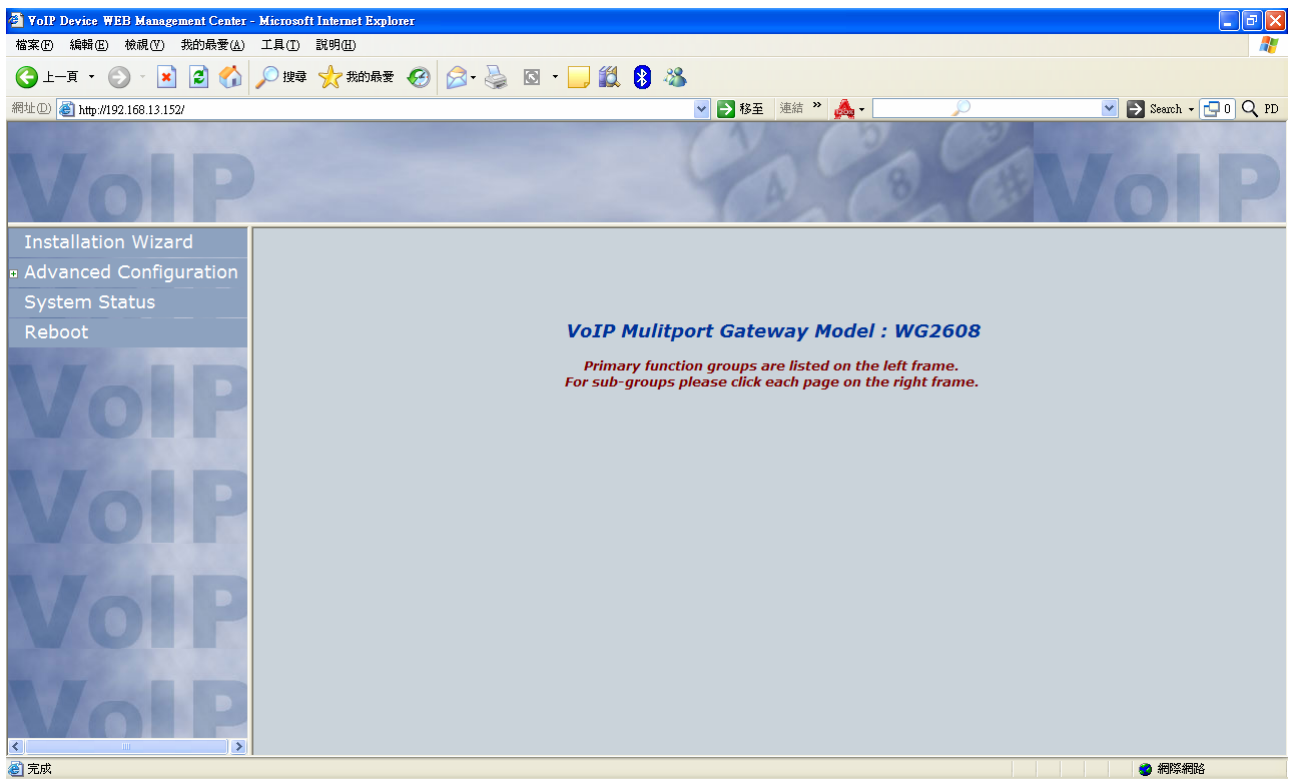
1. Open your WEB browser and key in the IP address of the gateway (http://192.168.123.123) in the Address box (see figure below).



2. You will see a pop-up window requesting username and password before you can login to the web configuration menu. Username is "root" while password is blank " " (see figure below).

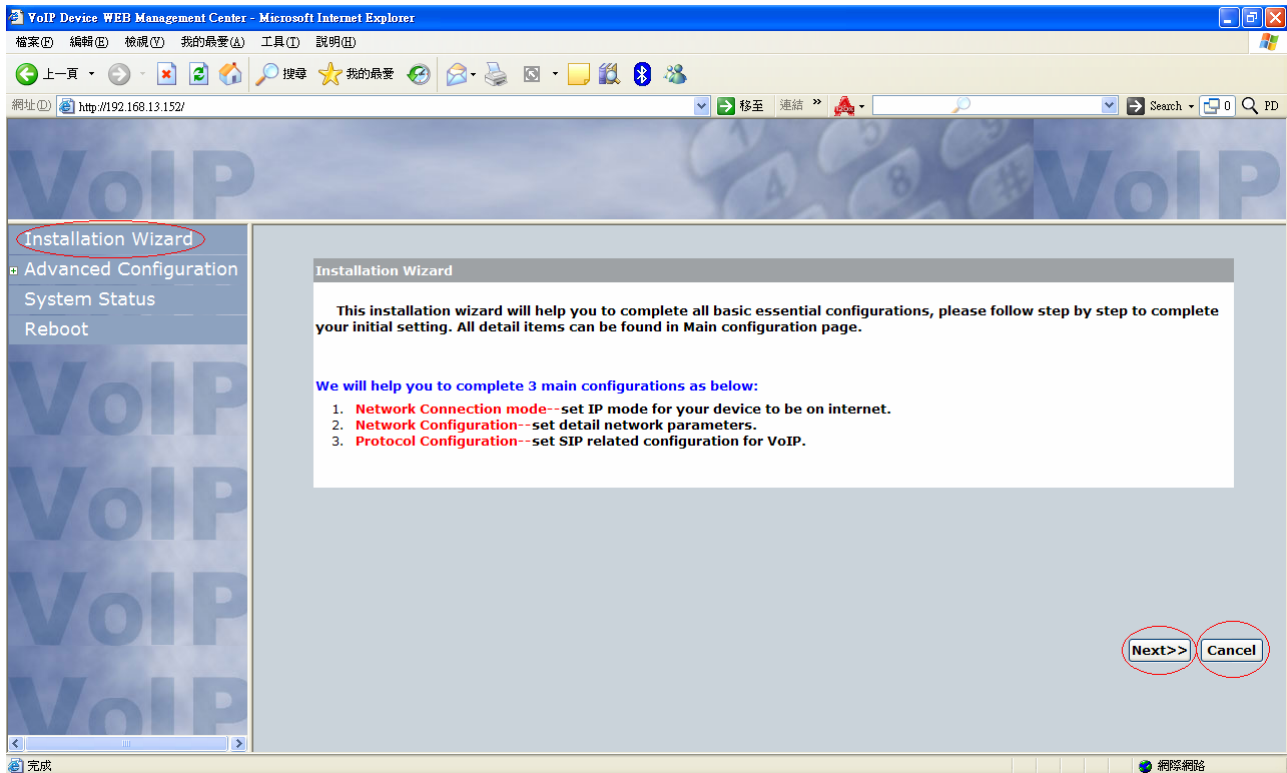


3. You will enter the main page of the web configuration interface after you keyed in the username and password correctly (see figure below).

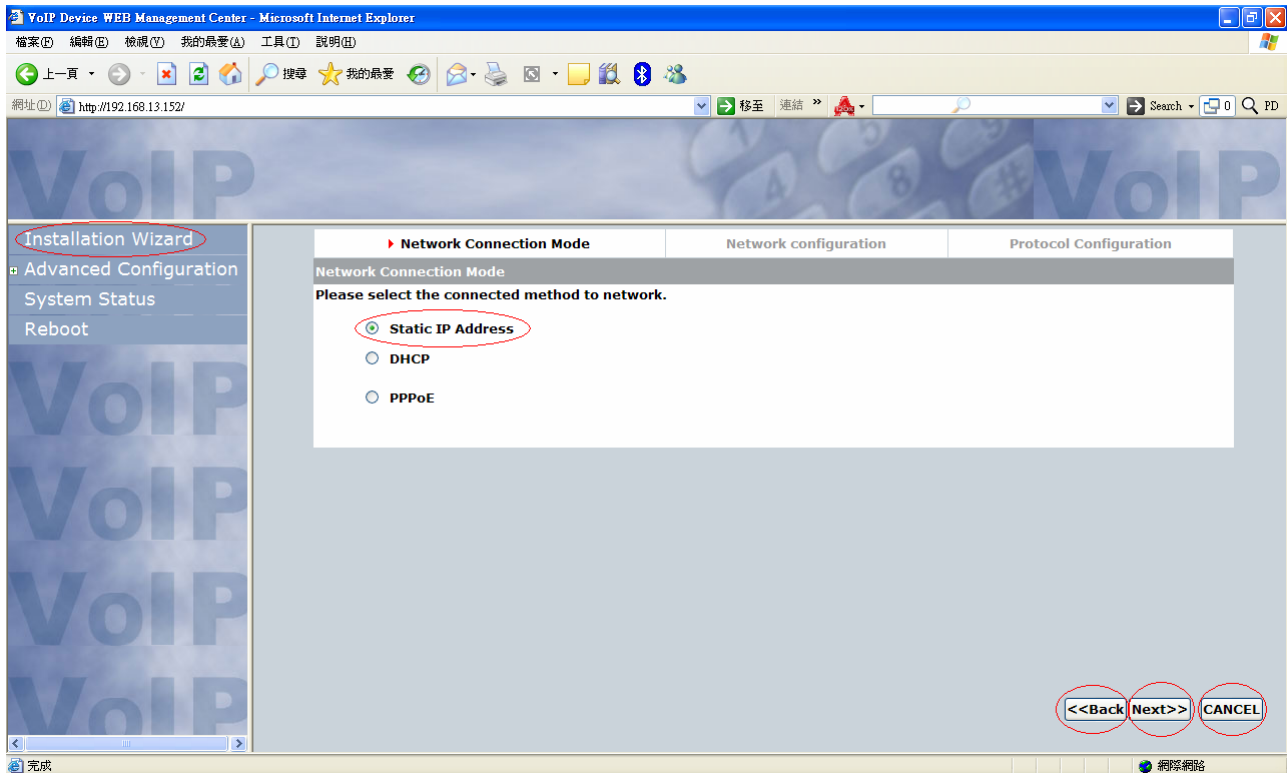


Quick Setup Guide using Installation Wizard

This installation wizard will help you to complete all the basic essential configurations, please follow step by step to complete your initial setting. For more detailed explanation of Advanced Configuration and System Status, please refer to the relevant sections in the user manual.

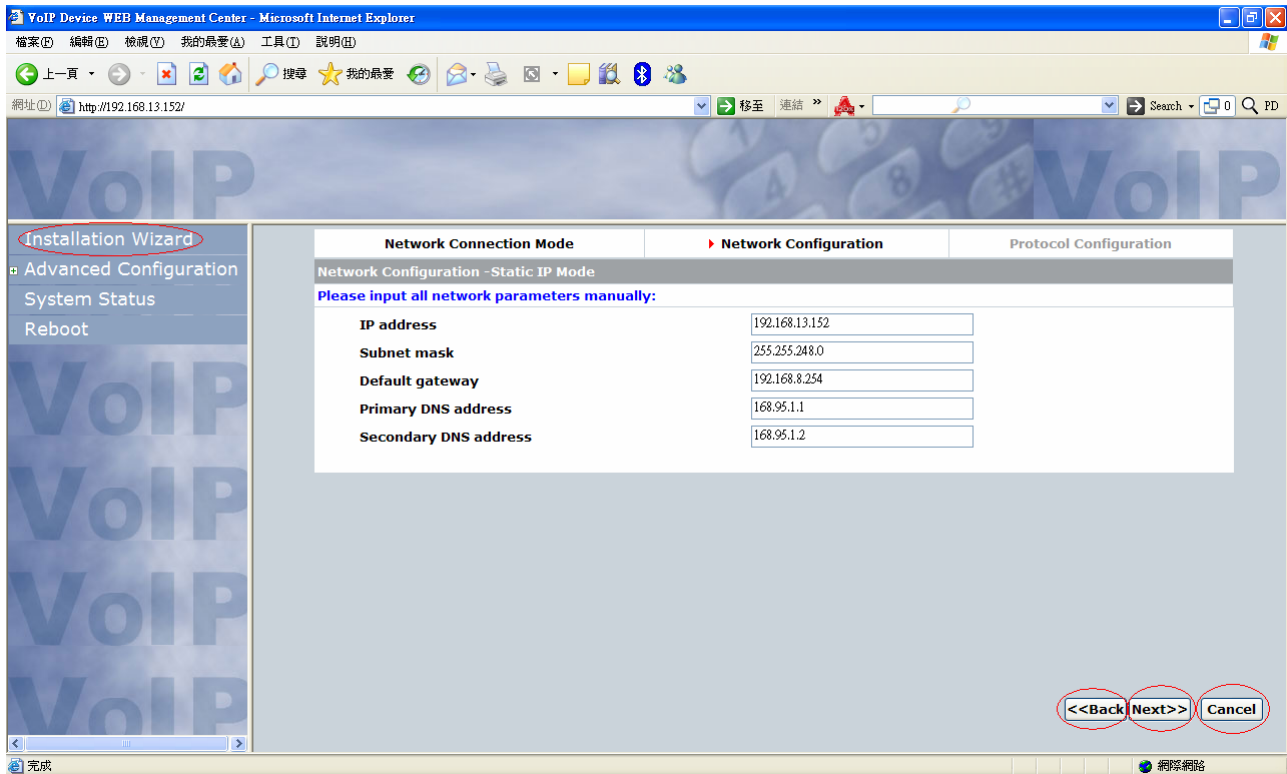


1. Click on the Installation Wizard option located on the navigation panel on the left hand side of the web menu.
2. Click the Next>> button to proceed or the Cancel button to exit the installation wizard.

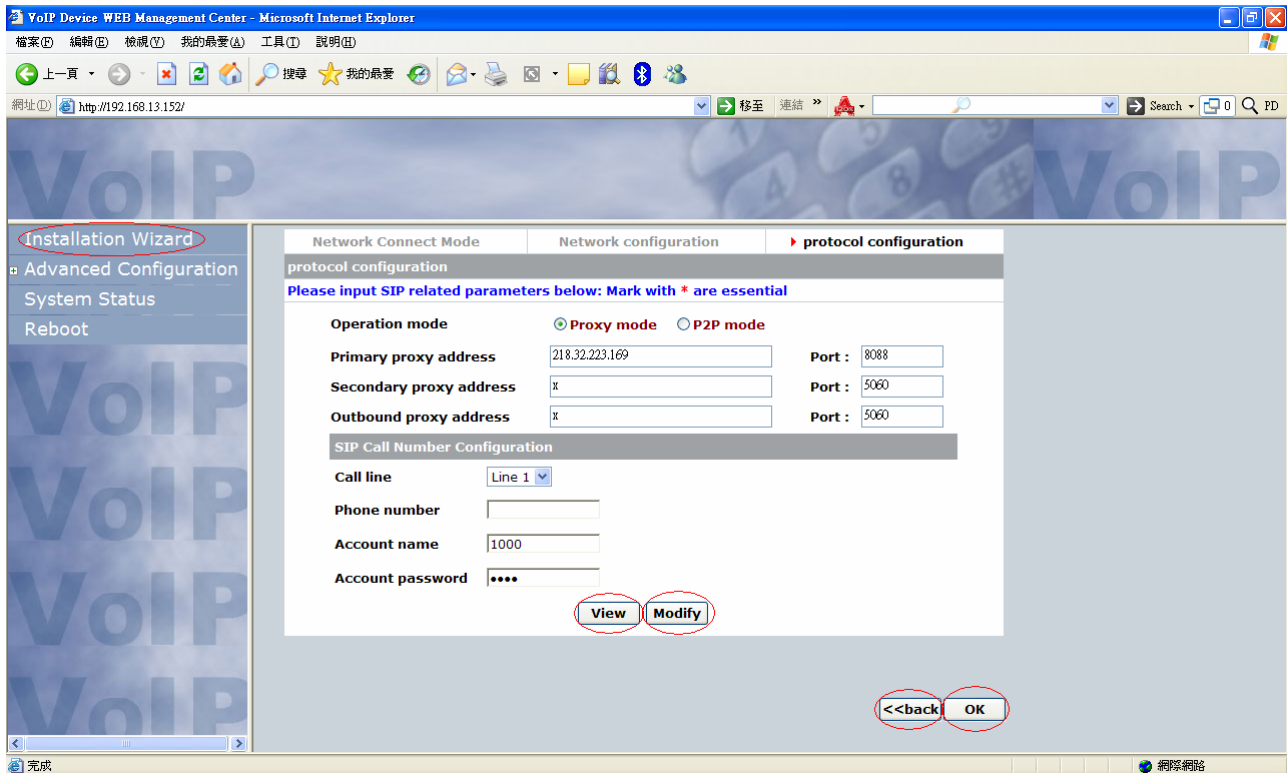


3. Select the Network Connection Mode for your device, you can choose either Static IP Address, DHCP or PPPoE. Click the <<Back button to go back or Next>> to proceed. To exit the installation wizard, click the CANCEL button.

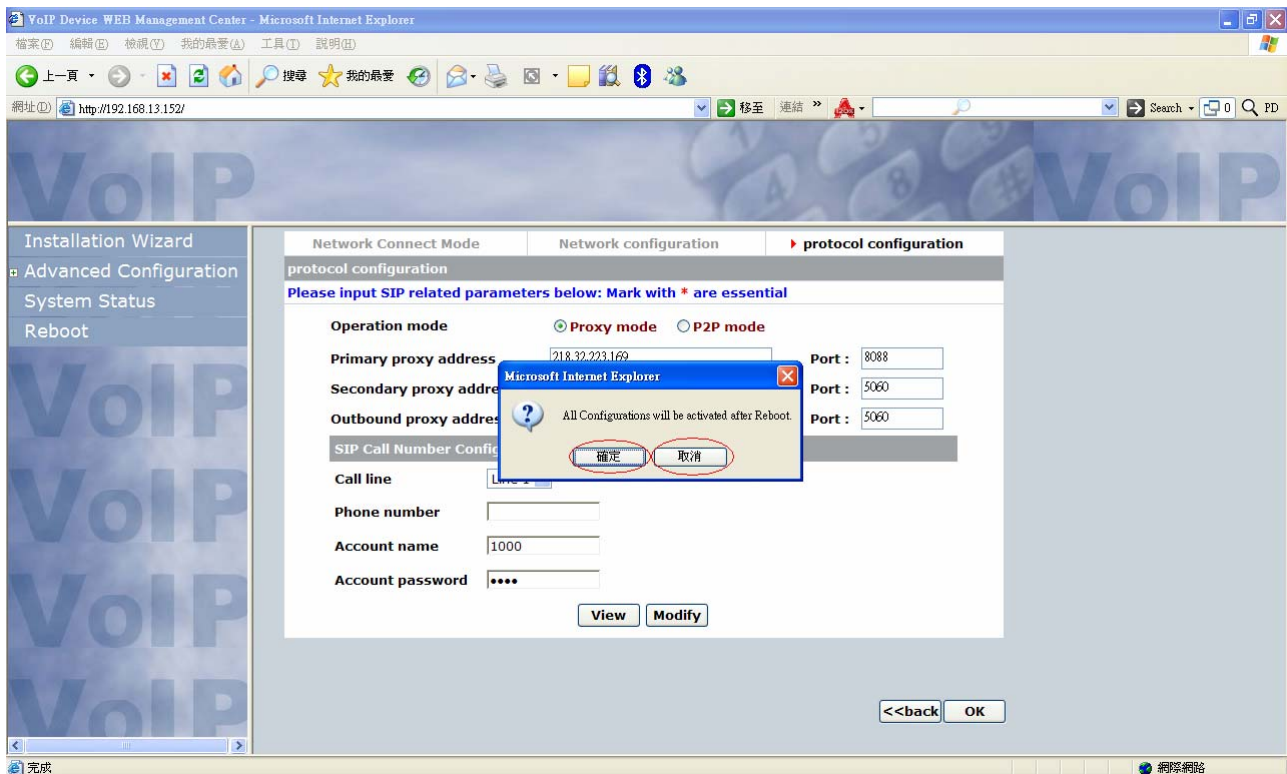
Static IP Address



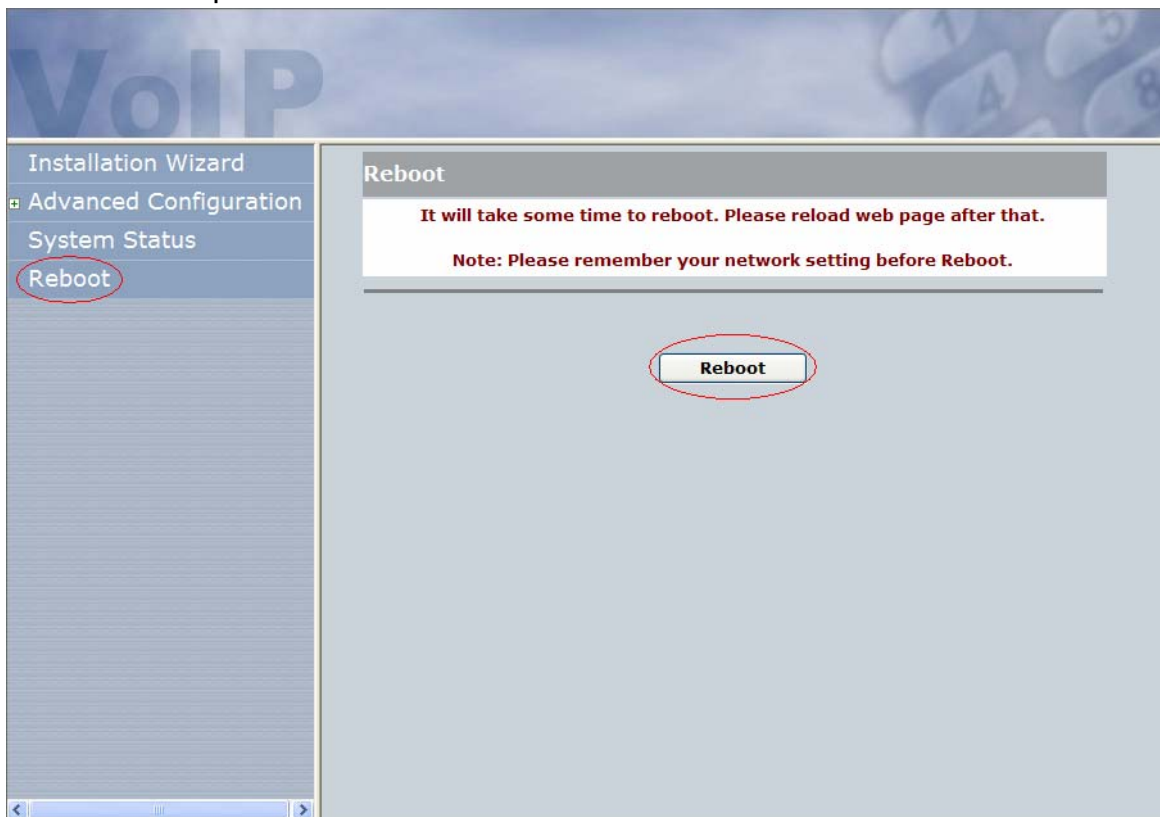
1. Input the IP address, subnet mask, default gateway, primary and secondary DNS address.
2. Click the <<Back button to go back or Next>> to proceed. To exit the installation wizard, click the CANCEL button.



1. Configure the relevant SIP settings in this page, for more information, please refer to page 37 for detailed instructions on configuring SIP.
2. Click the View button to view the current settings, click the Modify button to apply the changes made to the SIP settings.
3. Click the <<back button to go back. To finish the installation, click the OK button.

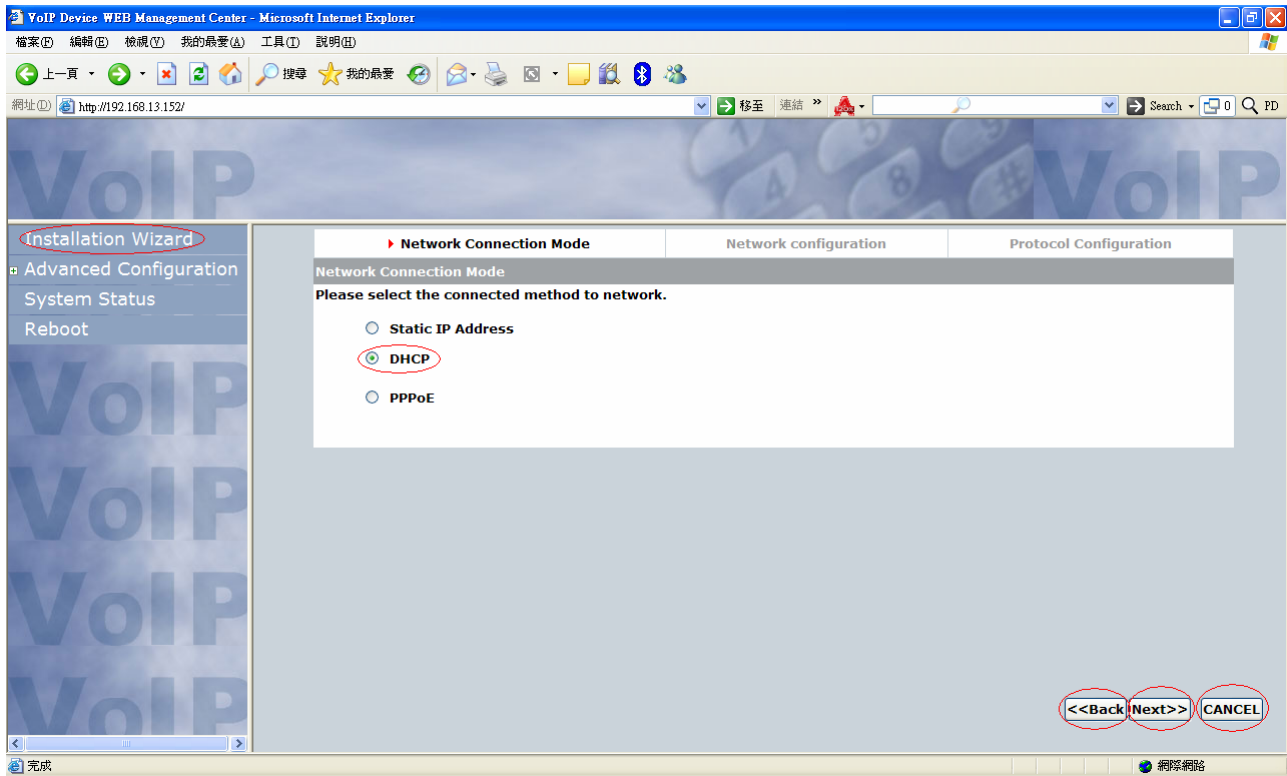


4. You will be prompted with a pop-up window for confirmation, to proceed, click OK. To quit, click cancel.

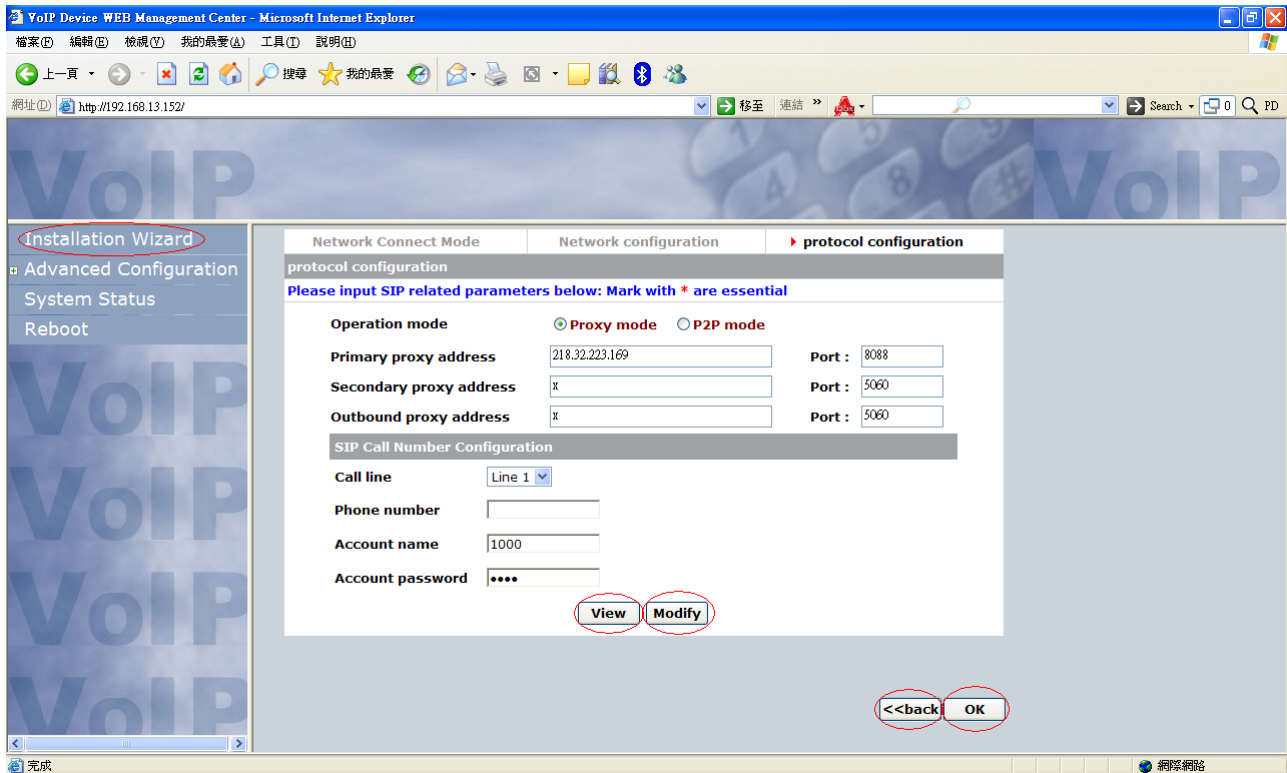


5. Press the reboot button to apply the changes.

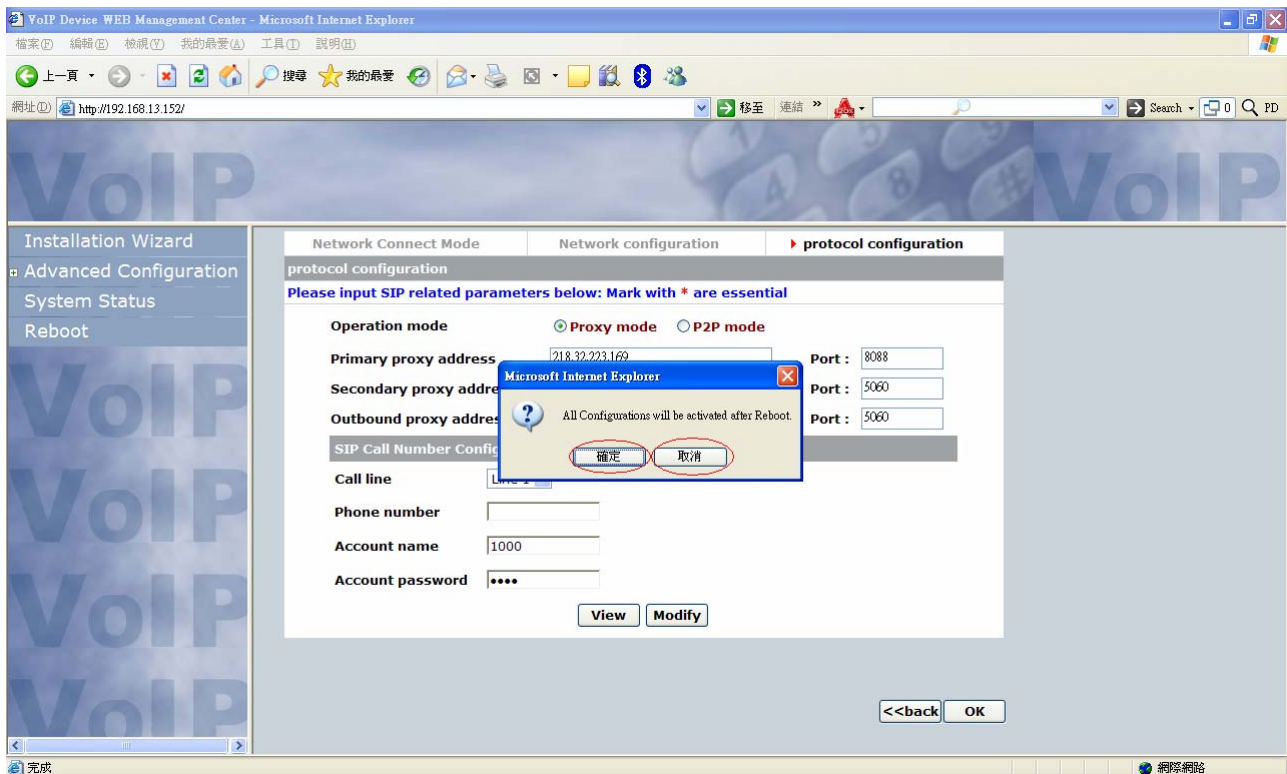
DHCP



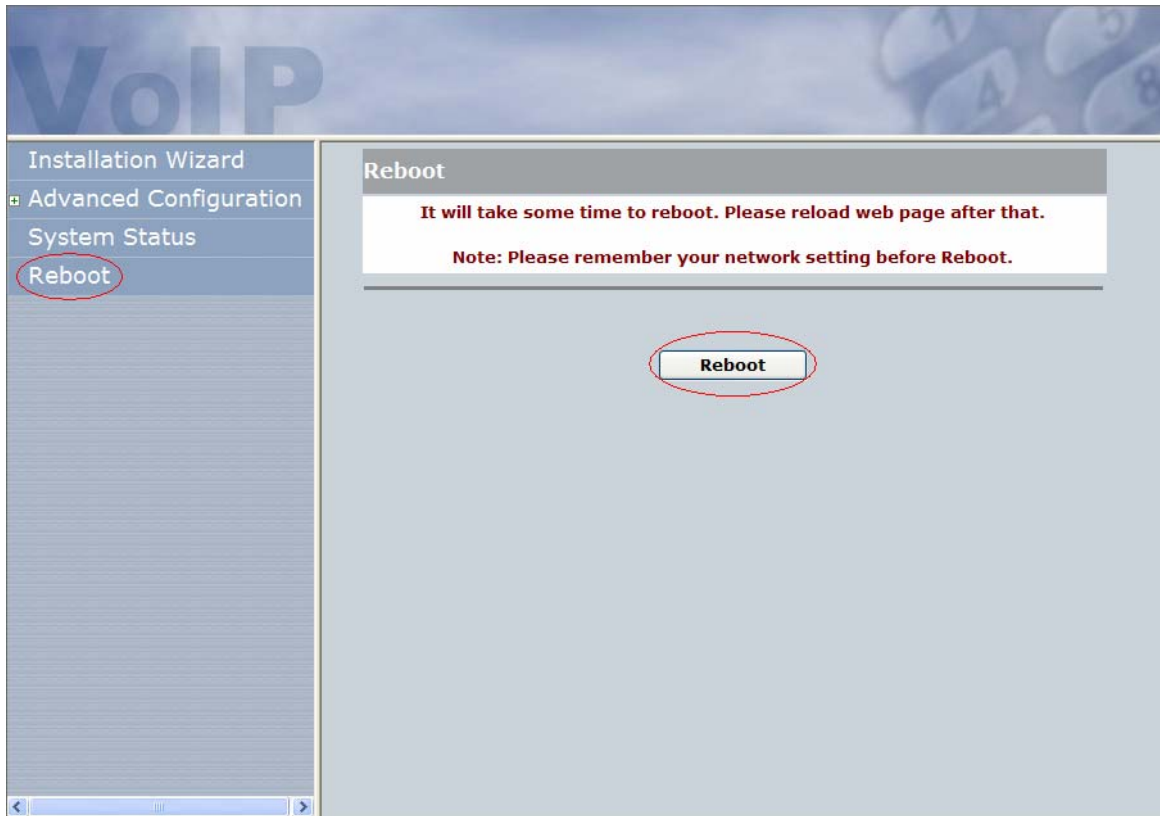
1. Select the Network Connection Mode for your device, you can choose either Static IP Address, DHCP or PPPoE. Click the <<Back button to go back or Next>> to proceed. To exit the installation wizard, click the CANCEL button.



2. Configure the relevant SIP settings in this page, for more information, please refer to page 37 for detailed instructions on configuring SIP.
3. Click the View button to view the current settings, click the Modify button to apply the changes made to the SIP settings.
4. Click the <<back button to go back. To finish the installation, click the OK button.

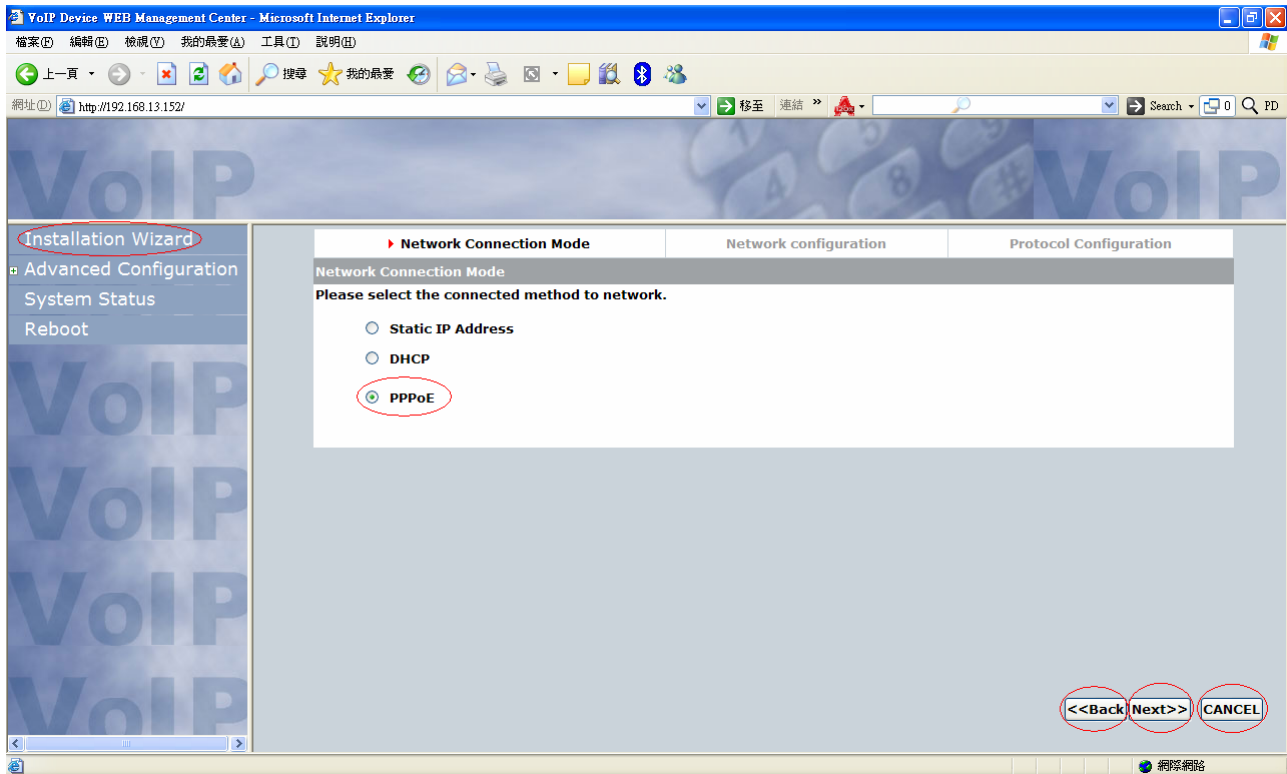


5. You will be prompted with a pop-up window for confirmation, to proceed, click OK. To quit, click cancel.

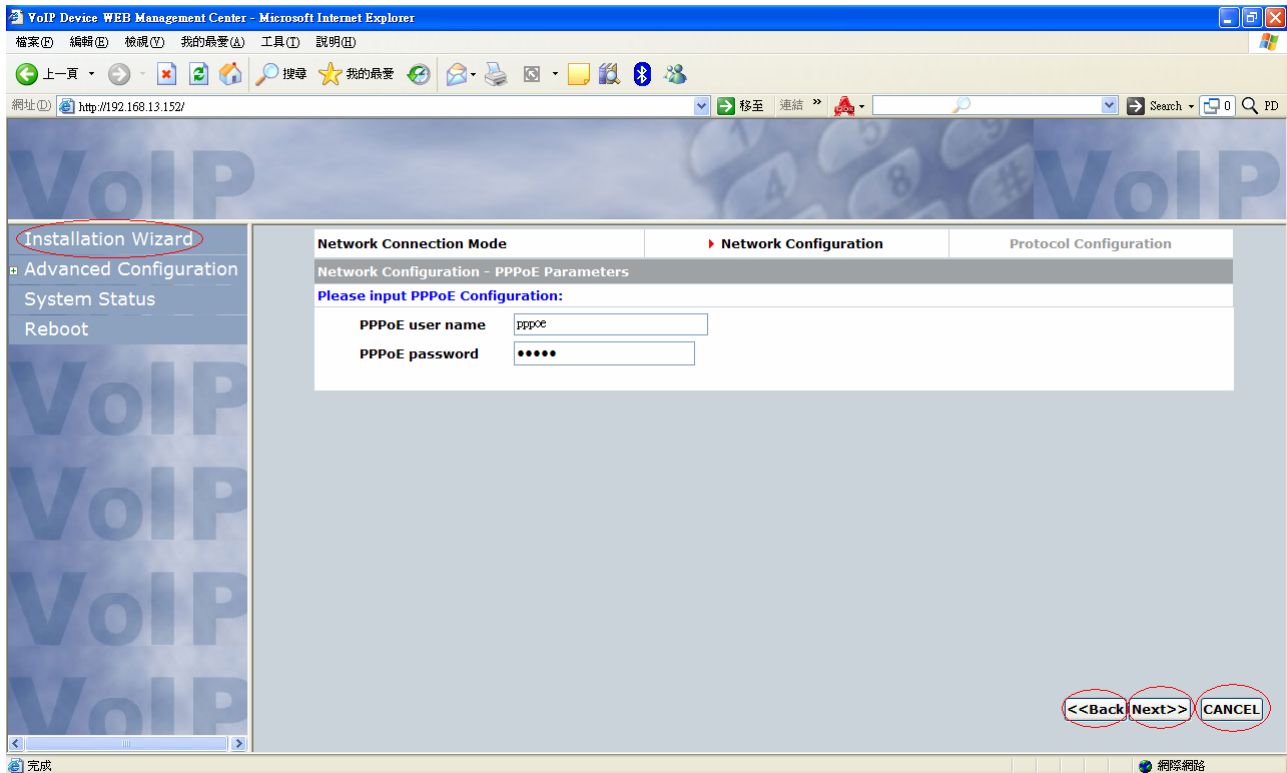


6. Press the reboot button to apply the changes.

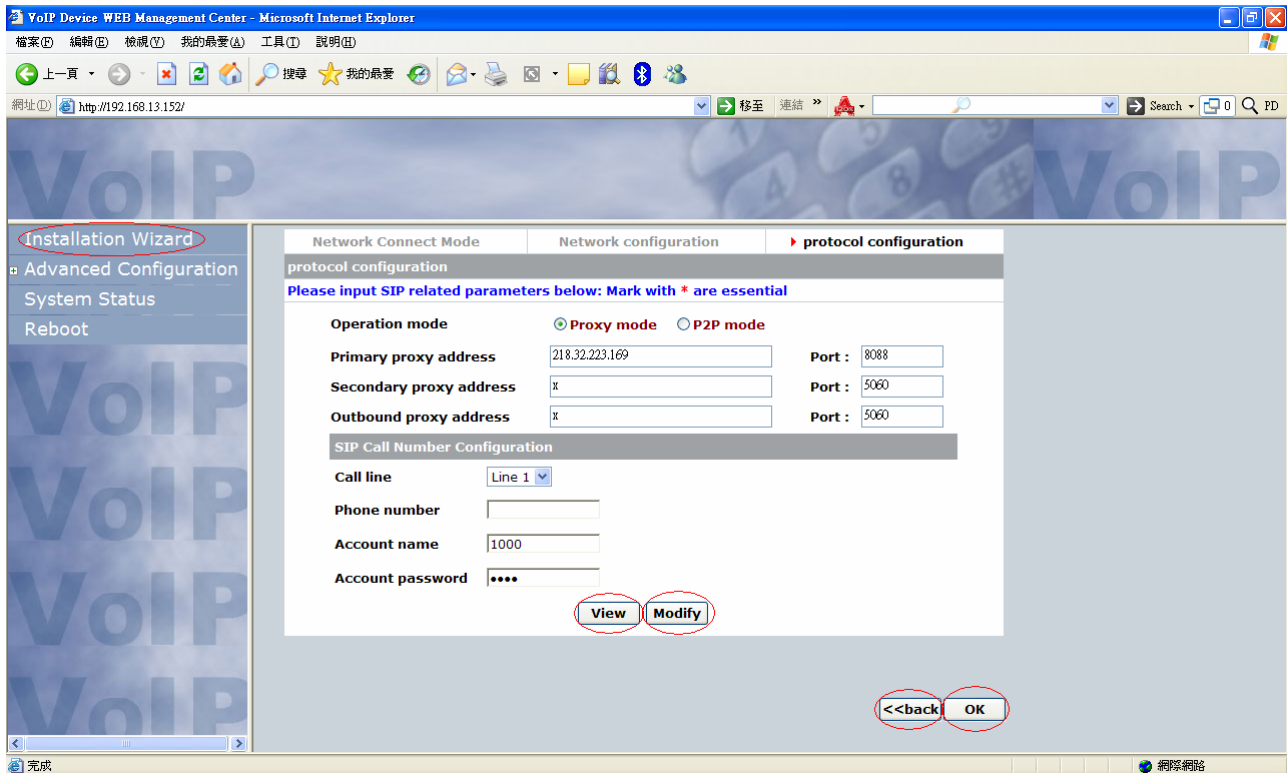
PPPoE



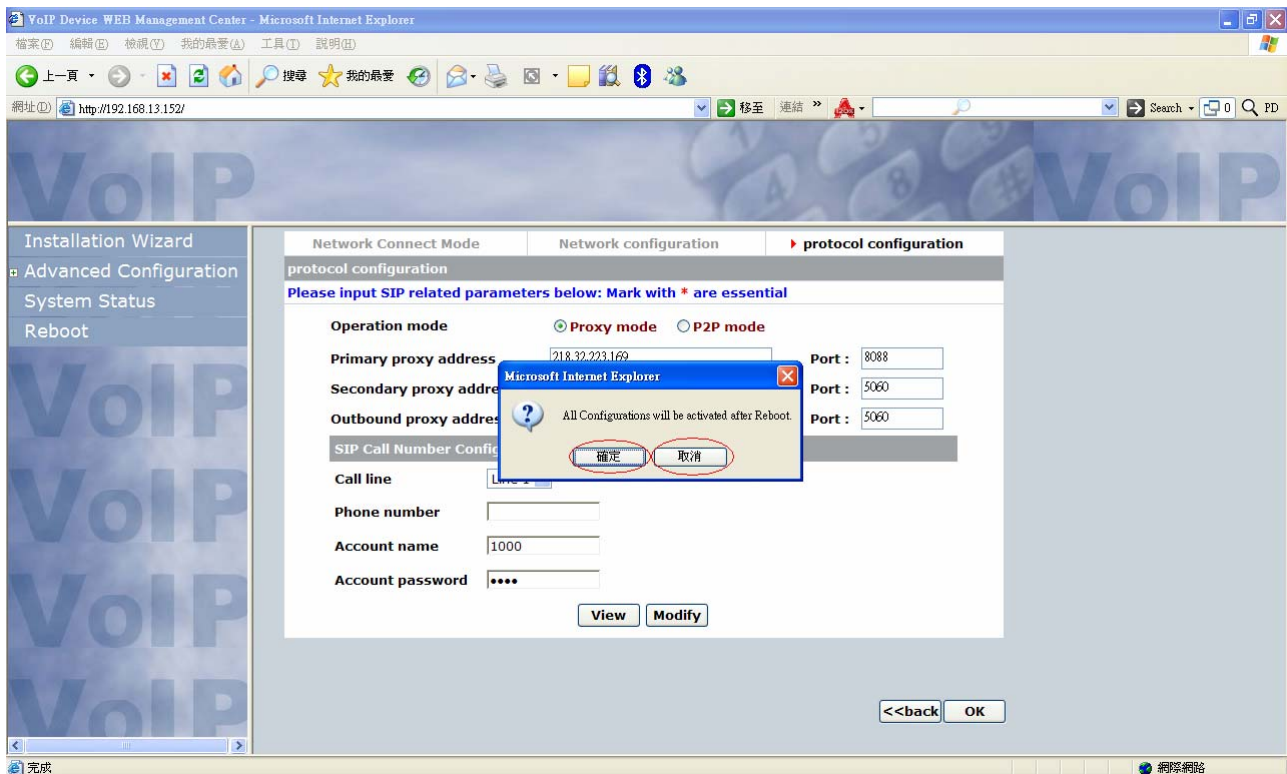
1. Select the Network Connection Mode for your device, you can choose either Static IP Address, DHCP or PPPoE. Click the <<Back button to go back or Next>> to proceed. To exit the installation wizard, click the CANCEL button.



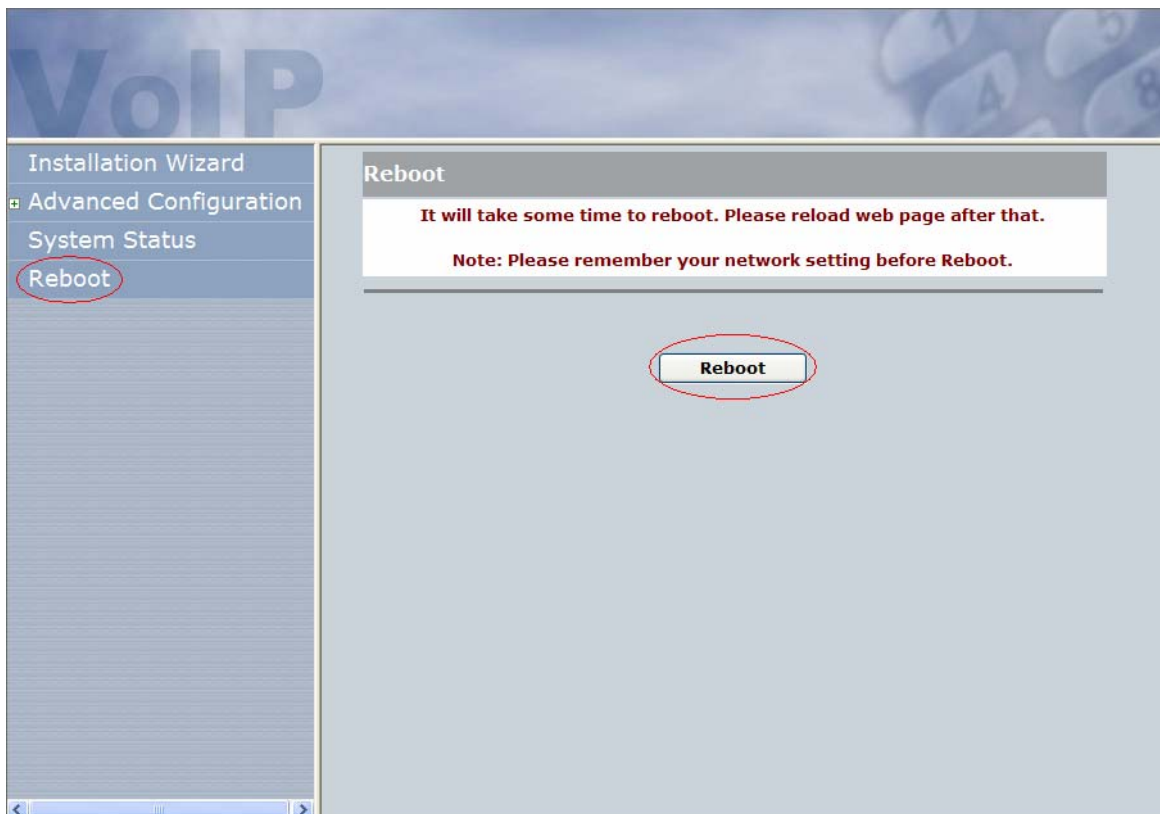
2. Input the PPPoE username and password.
3. Click the <<Back button to go back or Next>> to proceed. To exit the installation wizard, click the CANCEL button.



4. Configure the relevant SIP settings in this page, for more information, please refer to page 37 for detailed instructions on configuring SIP.
5. Click the View button to view the current settings, click the Modify button to apply the changes made to the SIP settings.
6. Click the <<back button to go back. To finish the installation, click the OK button.



7. You will be prompted with a pop-up window for confirmation, to proceed, click OK. To quit, click cancel.



6. Press the reboot button to apply the changes.

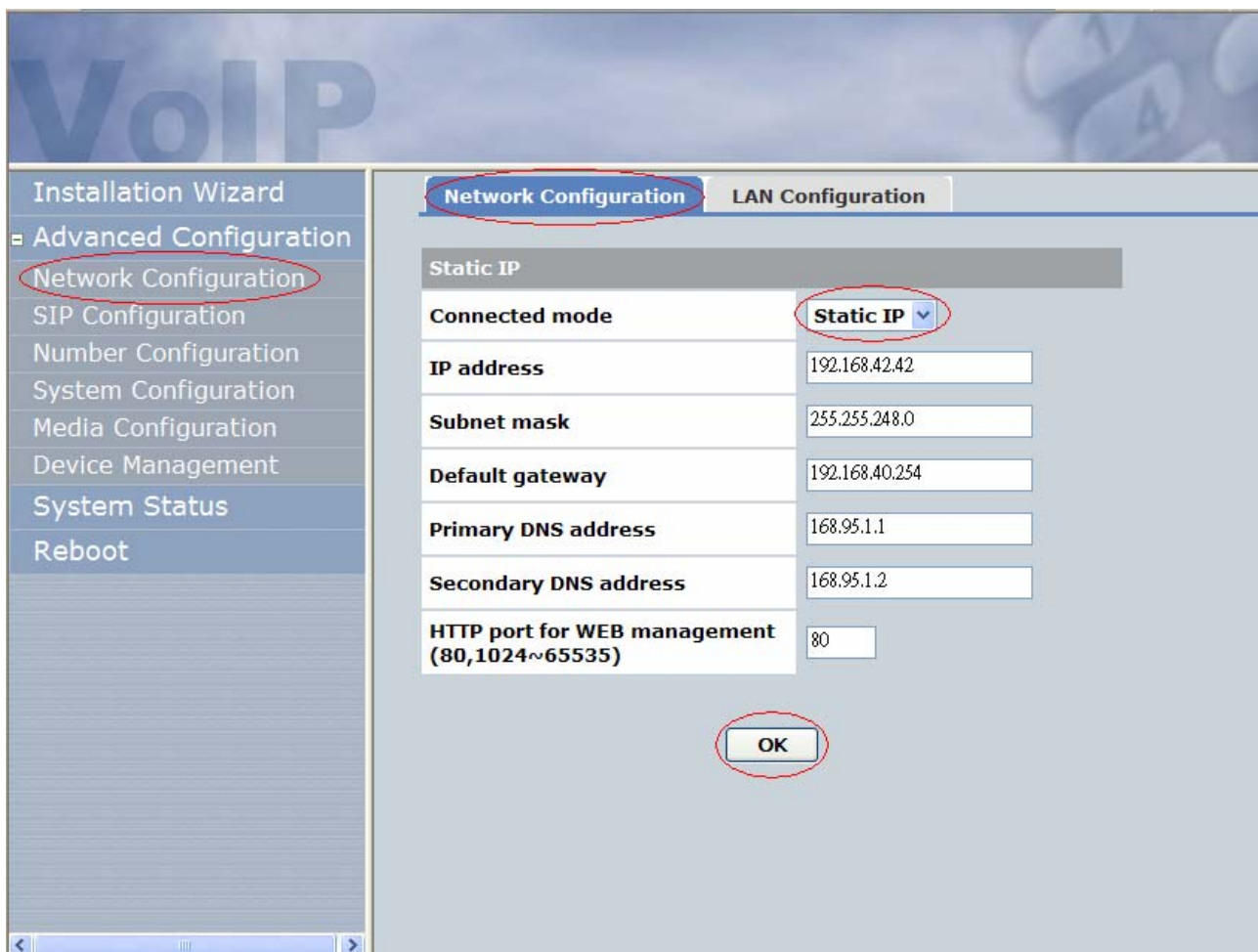
Network Configuration

The following instructions will explain the configurations for setting up the WAN port of the WG2608. There are in total three methods of connections: Static IP, DHCP and PPPoE.

Note: You can retrieve the IP address of the WAN port by keying #126# on the phone set that is connected to the FXS port of the gateway. You will hear an IVR announcing the current IP address of the WAN port.

WAN Configuration

Static IP



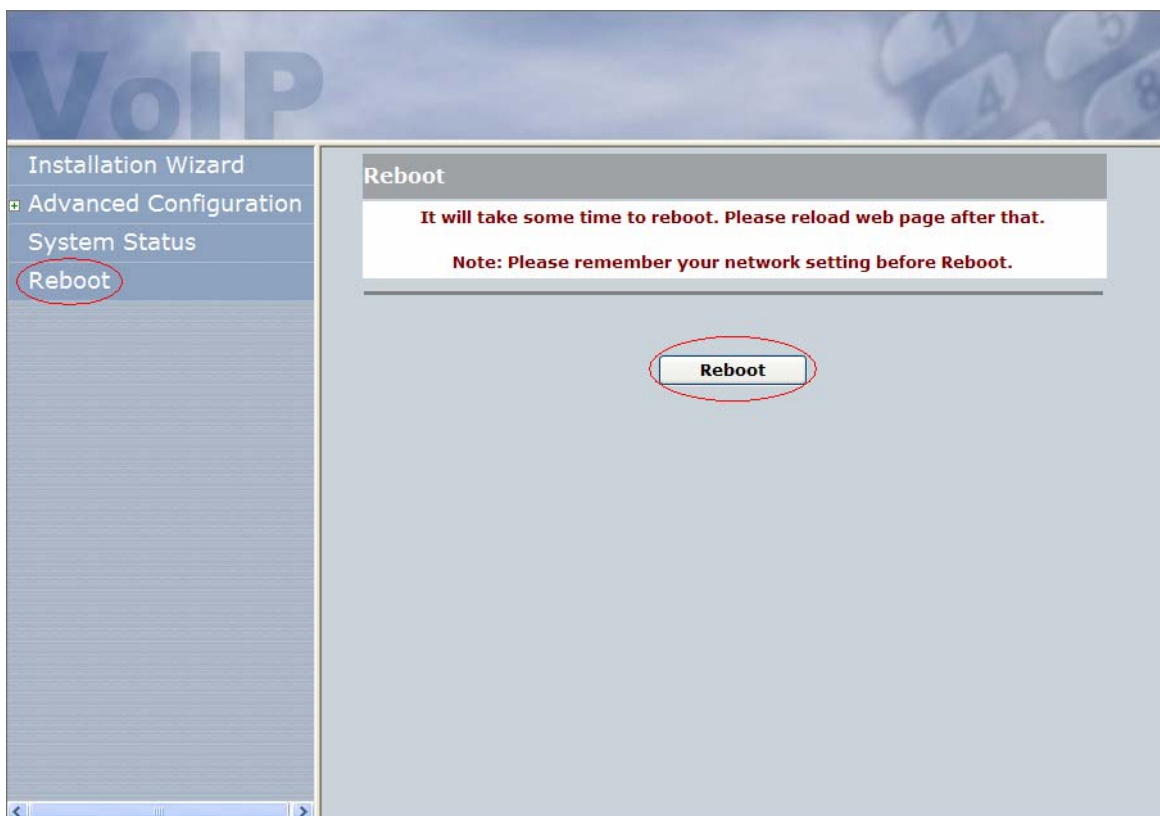
The screenshot displays the 'VoIP' configuration interface. On the left is a sidebar menu with options: Installation Wizard, Advanced Configuration (expanded), Network Configuration (highlighted), SIP Configuration, Number Configuration, System Configuration, Media Configuration, Device Management, System Status, and Reboot. The main area has two tabs: 'Network Configuration' (selected) and 'LAN Configuration'. Under 'Network Configuration', the 'Static IP' section is active. It contains the following fields:

Static IP	
Connected mode	Static IP
IP address	192.168.42.42
Subnet mask	255.255.248.0
Default gateway	192.168.40.254
Primary DNS address	168.95.1.1
Secondary DNS address	168.95.1.2
HTTP port for WEB management (80,1024~65535)	80

At the bottom of the configuration area is an 'OK' button.

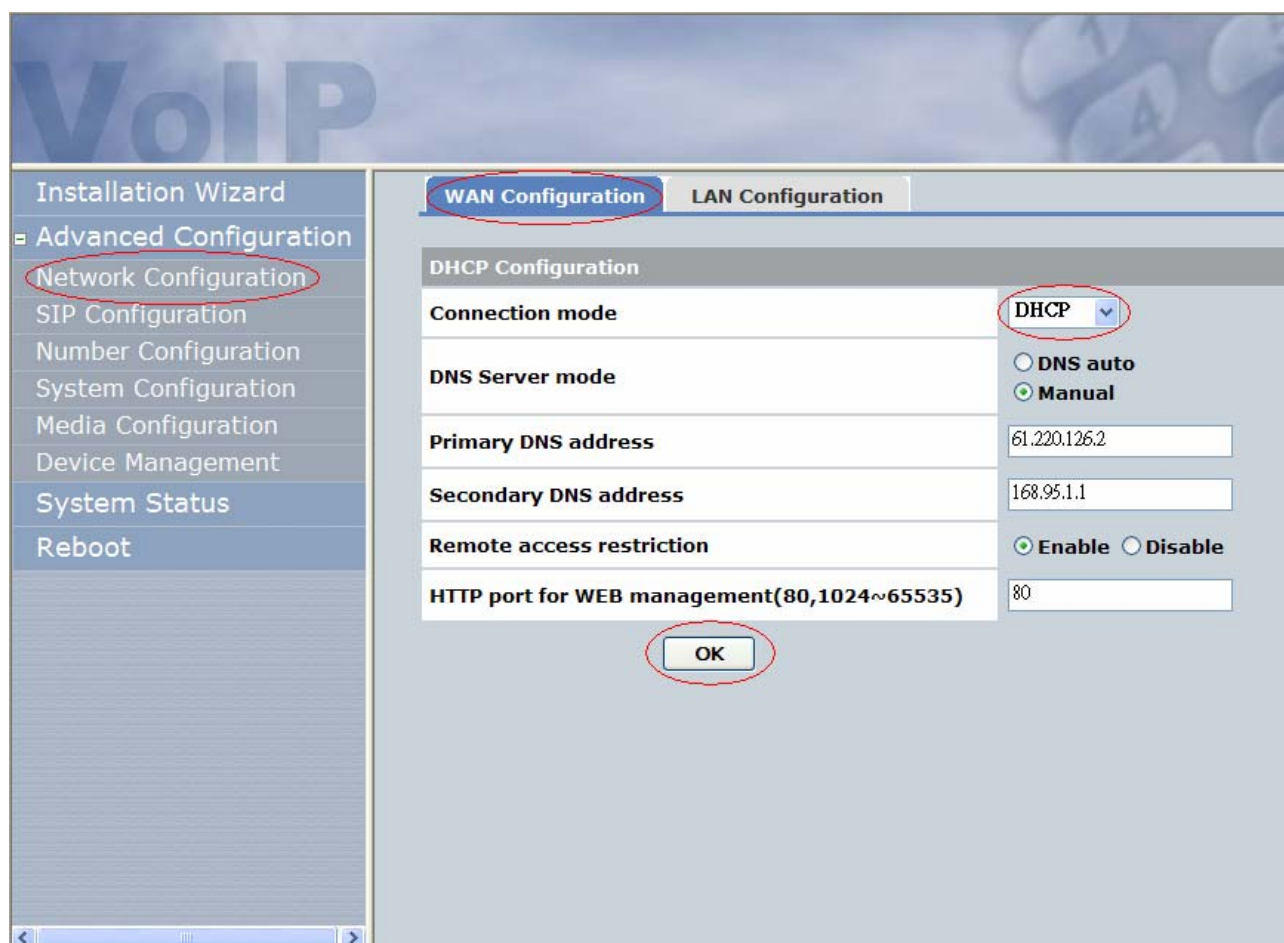
Connected mode	Select the connection method for the WAN port of the WG2608, you can choose the following: <ul style="list-style-type: none"> ● Static IP ● DHCP ● PPPoE
IP address	Specify the IP address.
Subnet mask	Specify the subnet mask.
Default gateway	Specify the IP address of the default gateway.
Primary DNS address	Specify the address of the Primary DNS.
Secondary DNS address	Specify the address of the Secondary DNS.
HTTP port for WEB management	Specify the port number for WEB management, the allowable range is 1024~65535.

1. Press the OK button (at the bottom) after you finish to save changes.



2. Press the reboot button to apply the changes.

DHCP

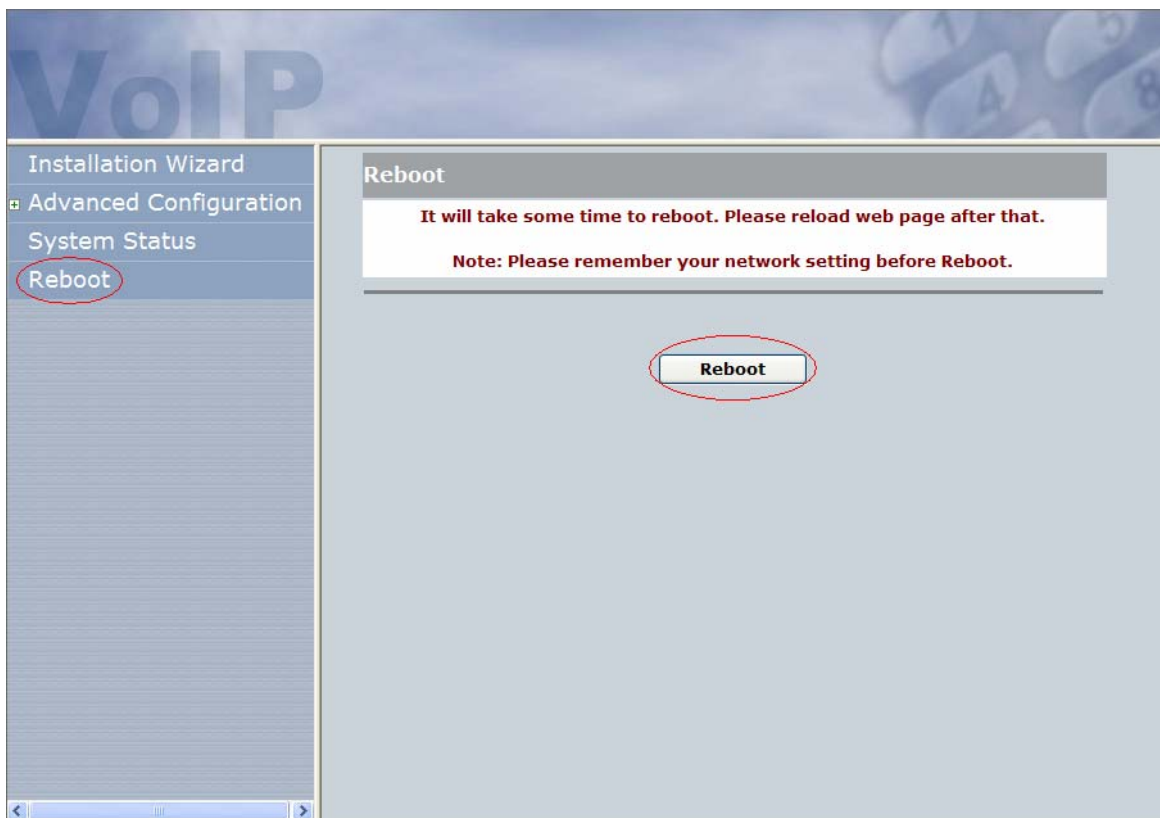


The screenshot shows the 'WAN Configuration' tab in the configuration interface. The 'DHCP Configuration' section is active. The 'Connection mode' is set to 'DHCP'. The 'DNS Server mode' is set to 'Manual'. The 'Primary DNS address' is 61.220.125.2, and the 'Secondary DNS address' is 168.95.1.1. The 'Remote access restriction' is set to 'Enable'. The 'HTTP port for WEB management' is 80. The 'OK' button is highlighted.

Connection mode	<p>Select the connection method for the WAN port of the WG2608, you can choose the following:</p> <ul style="list-style-type: none"> ● Static IP ● DHCP ● PPPoE
DNS Server mode	<p>Select the DNS behaviour, you can choose the following:</p> <ul style="list-style-type: none"> ● DNS auto ● Manual <p>"DNS auto" will retrieve the DNS information sent from the DHCP server.</p> <p>"Manual" will look at the specified Primary and Secondary DNS address.</p>

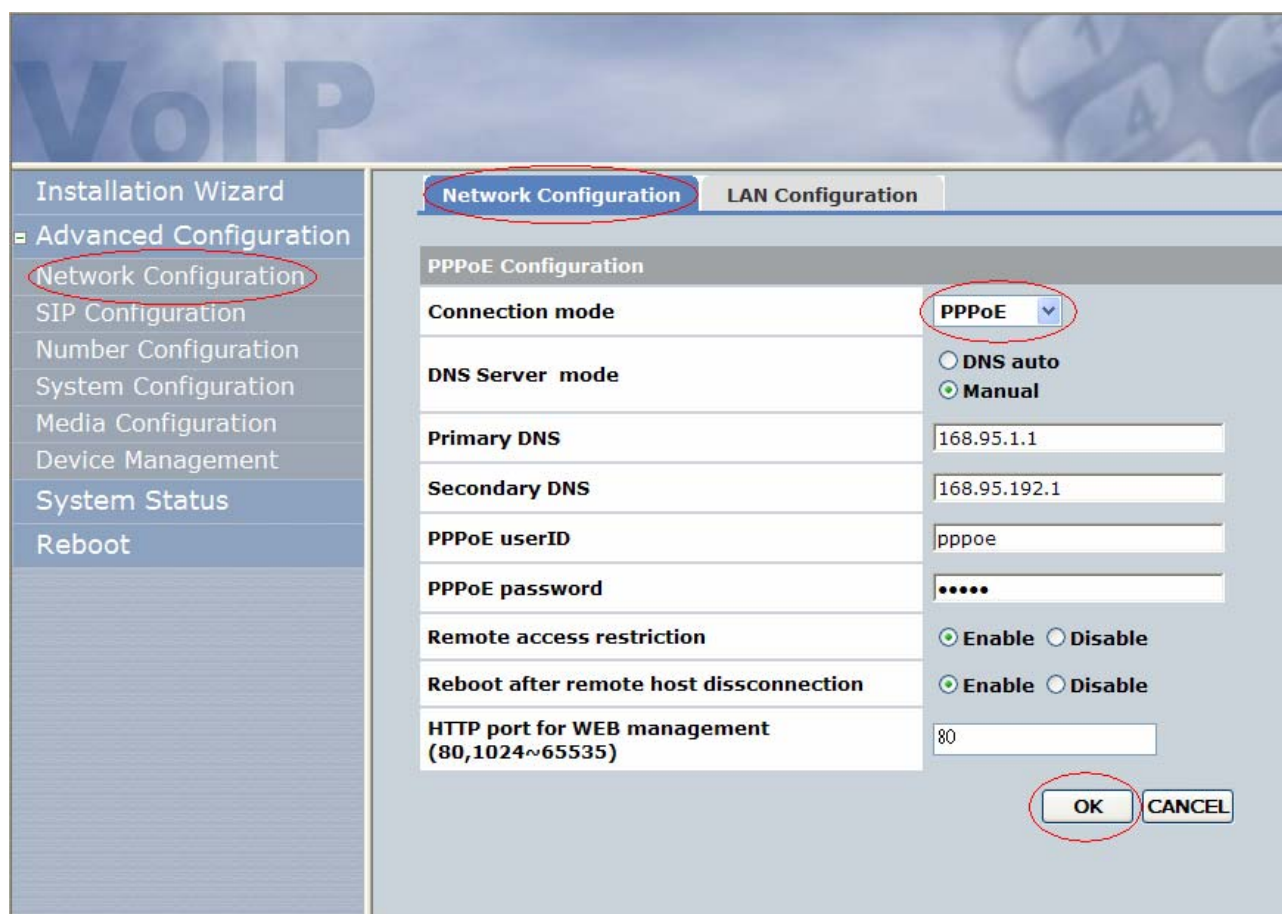
Primary DNS	Specify the address of the primary DNS.
Secondary DNS	Specify the address of the secondary DNS.
Remote access restriction	Restricts/Blocks users connecting to the WAN port's IP remotely, you can enable/disable this option.
HTTP port for WEB management	Specify the port number for WEB management, the allowable range is 1024~65535.

1. Press the OK button (at the bottom) after you finish to save changes.



2. Press the reboot button to apply the changes.

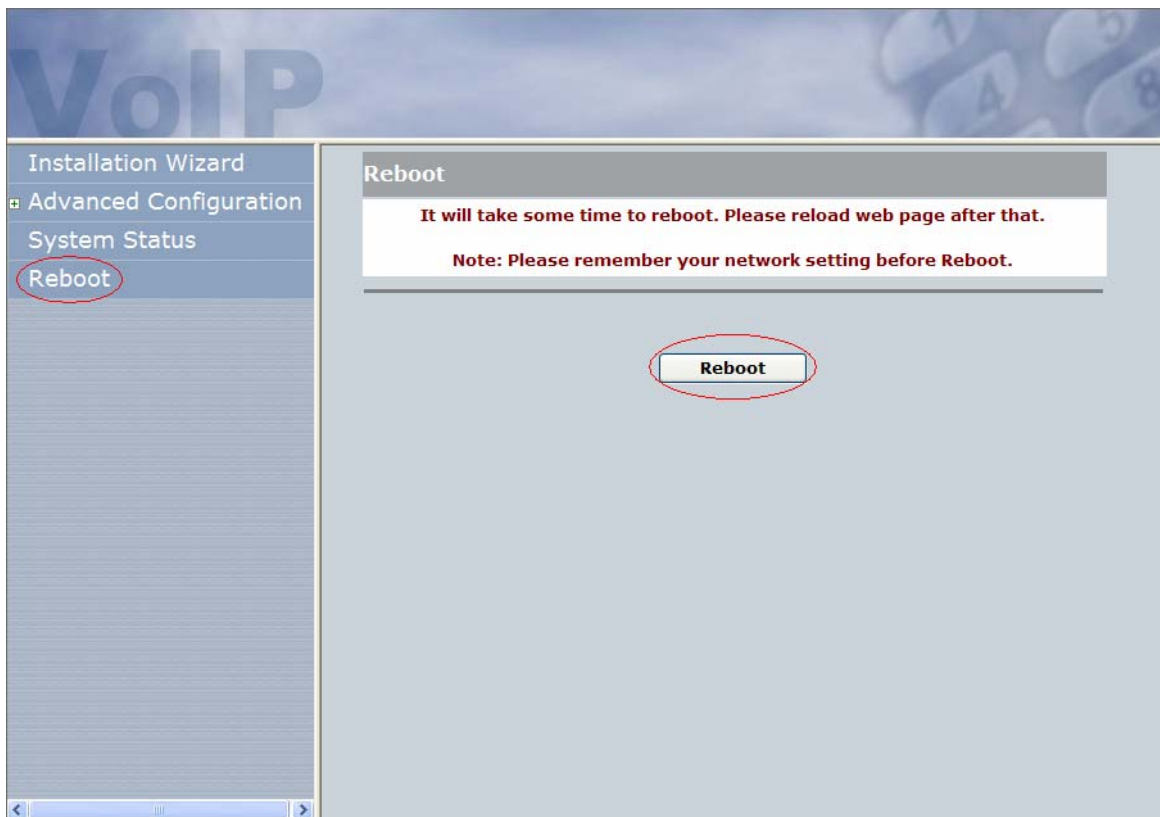
PPPoE



Connection mode	<p>Select the connection method for the WAN port of the WG2608, you can choose the following:</p> <ul style="list-style-type: none"> ● Static IP ● DHCP ● PPPoE
DNS Server mode	<p>Select the DNS behaviour, you can choose the following:</p> <ul style="list-style-type: none"> ● DNS auto ● Manual <p>“DNS auto” will retrieve the DNS information sent from the DHCP server.</p> <p>“Manual” will look at the specified Primary and Secondary DNS address.</p>
Primary DNS	Specify the address of the primary

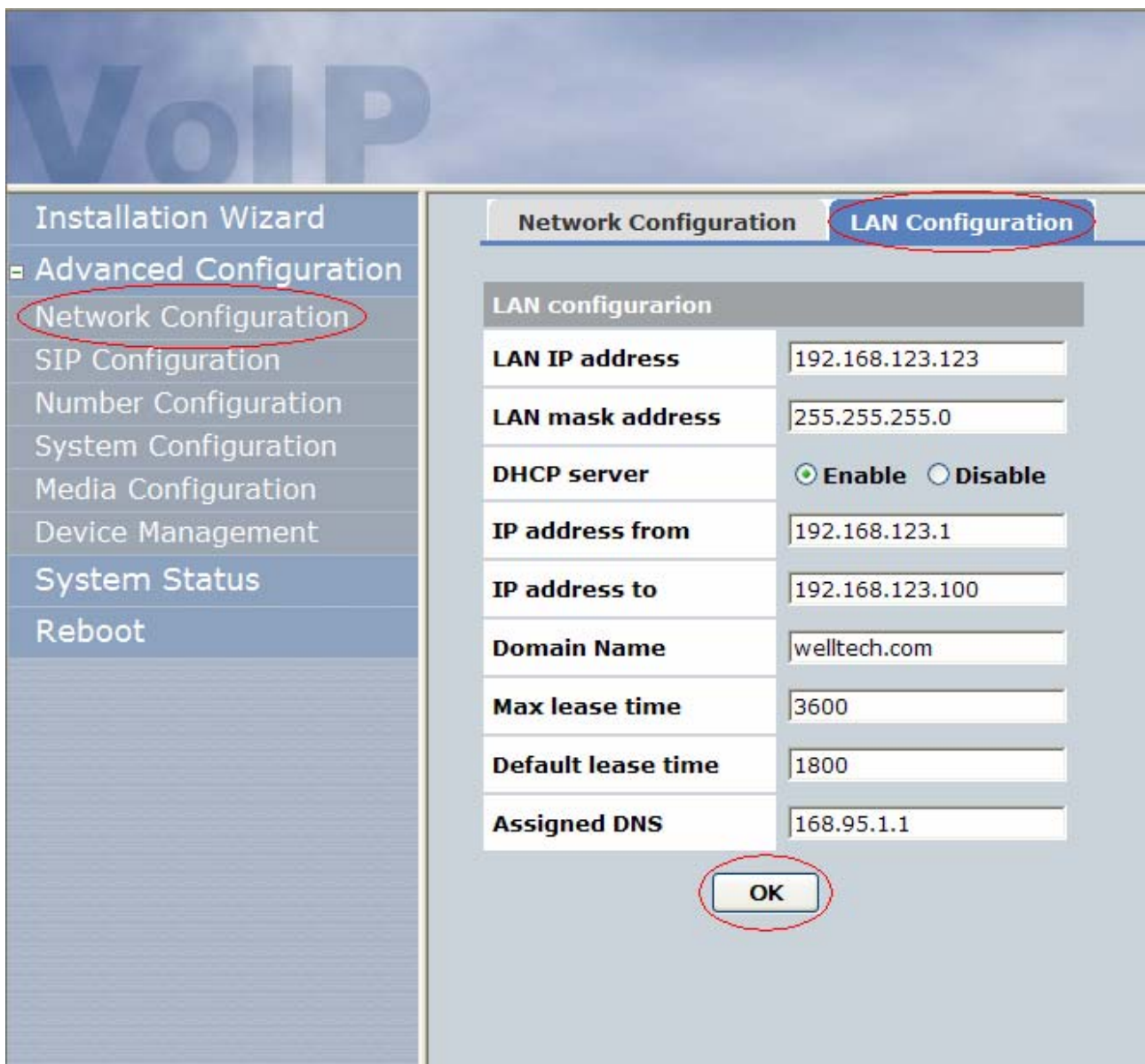
	DNS.
Secondary DNS	Specify the address of the secondary DNS.
PPPoE userID	Specify the username of the PPPoE account
PPPoE password	Specify the password associated to the PPPoE account above.
Remote access restriction	Restricts/Blocks users connecting to the WAN port's IP remotely, you can enable/disable this option.
Reboot after remote host disconnection	When the remote host (PPPoE) fails, the gateway will retry 3 times to reconnect, if there is no reply from the remote host within 3 tries, then the gateway will reboot. You can enable/disable this option.
HTTP port for WEB management	Specify the port number for WEB management, the allowable range is 1024~65535.

1. Press the OK button (at the bottom) after you finish to save changes.
2. Press the CANCEL button (next to the OK button) to clear the values in the page.



3. Press the reboot button to apply the changes.

LAN Configuration



Installation Wizard

- Advanced Configuration
 - Network Configuration**
 - SIP Configuration
 - Number Configuration
 - System Configuration
 - Media Configuration
 - Device Management
- System Status
- Reboot

Network Configuration **LAN Configuration**

LAN configuration

LAN IP address 192.168.123.123

LAN mask address 255.255.255.0

DHCP server ☒ Enable ☐ Disable

IP address from 192.168.123.1

IP address to 192.168.123.100

Domain Name welltech.com

Max lease time 3600

Default lease time 1800

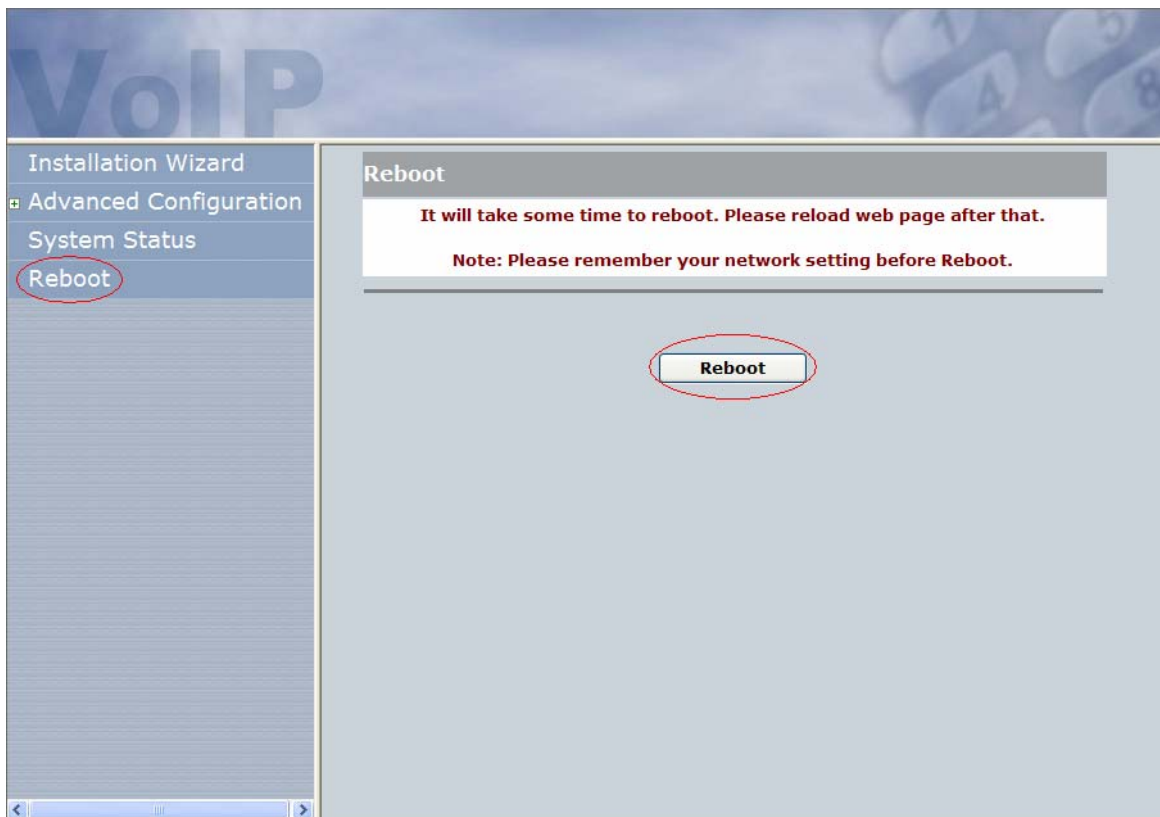
Assigned DNS 168.95.1.1

OK

LAN IP address	Specify the IP address of the WG2608's LAN port.
LAN mask address	Specify the mask address for WG2608's LAN port.
DHCP server	Enable/Disable DHCP function on the LAN port. Once enabled, the LAN ports will function as a DHCP server, network devices connected to them will be issued with IP addresses.

IP address from	When DHCP is enabled, you can specify the IP address to start from when assigning to attached network devices.
IP address to	When DHCP is enabled, you can specify the ending IP address assigned to the attached network devices.
Domain Name	You can specify the domain name that will be assigned by the DHCP server to the attached network devices. The DHCP server will send information on the "server host name" to the DHCP client.
Max lease time	You can specify the maximum lease time of the IP address allocated to the DHCP client.
Default lease time	You can specify the default lease time of the IP address allocated to the DHCP client.
Assigned DNS	You can specify the IP address of the DNS server that will be allocated to the DHCP client.

1. Press the OK button (at the bottom) after you finish to save changes.

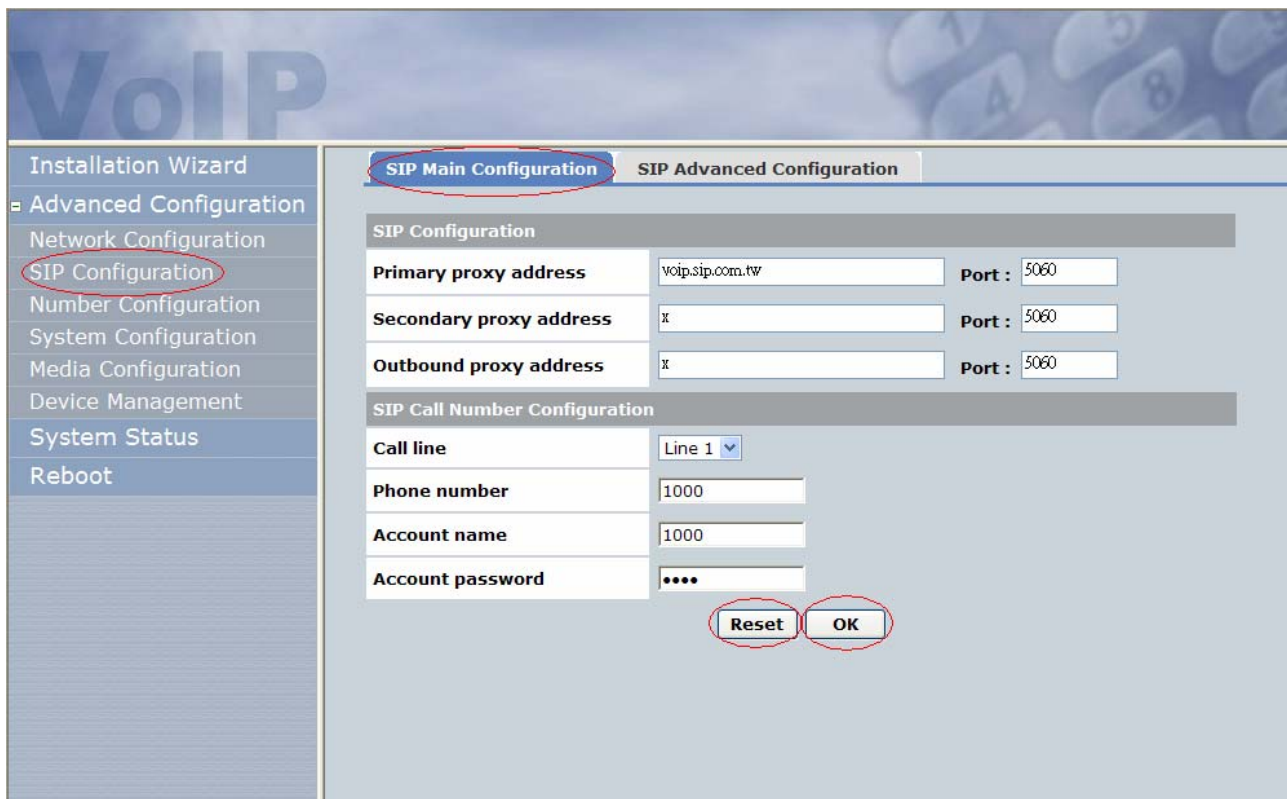


2. Press the reboot button to apply the changes.

Making a VoIP call

To make VoIP calls, you will need a SIP account provided by the SIP Proxy you are registered with. To configure the relevant SIP settings, please refer to the instructions explained below.

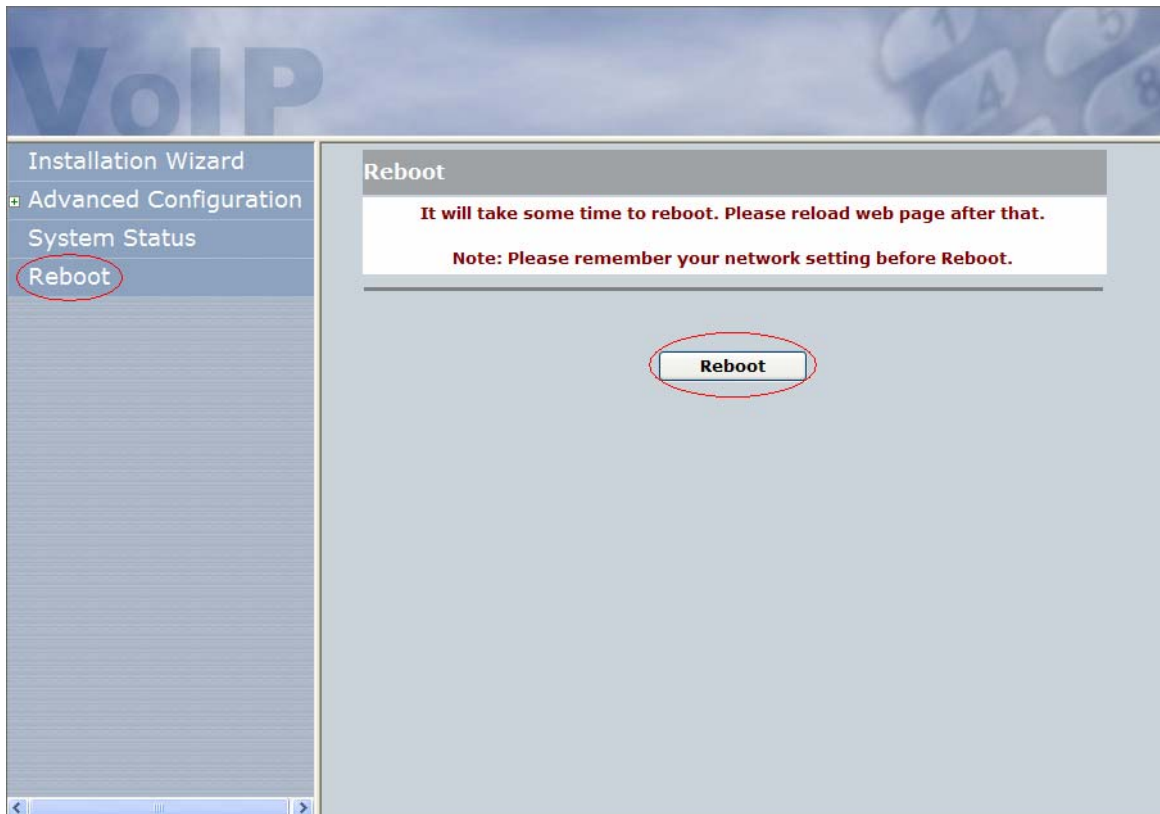
SIP Main Configuration



Primary proxy address	Specify the primary proxy address
Secondary proxy address	Specify the secondary proxy address
Outbound proxy address	Specify the Outbound proxy address
Call line	Select the line you would like to configure the SIP account on. There are in total 8 lines (8 FXS port) you can choose and configure up to from the drop down list.
Phone number	Enter the phone number
Account name	Enter the SIP account
Account password	Enter the associated password to the

SIP account above.

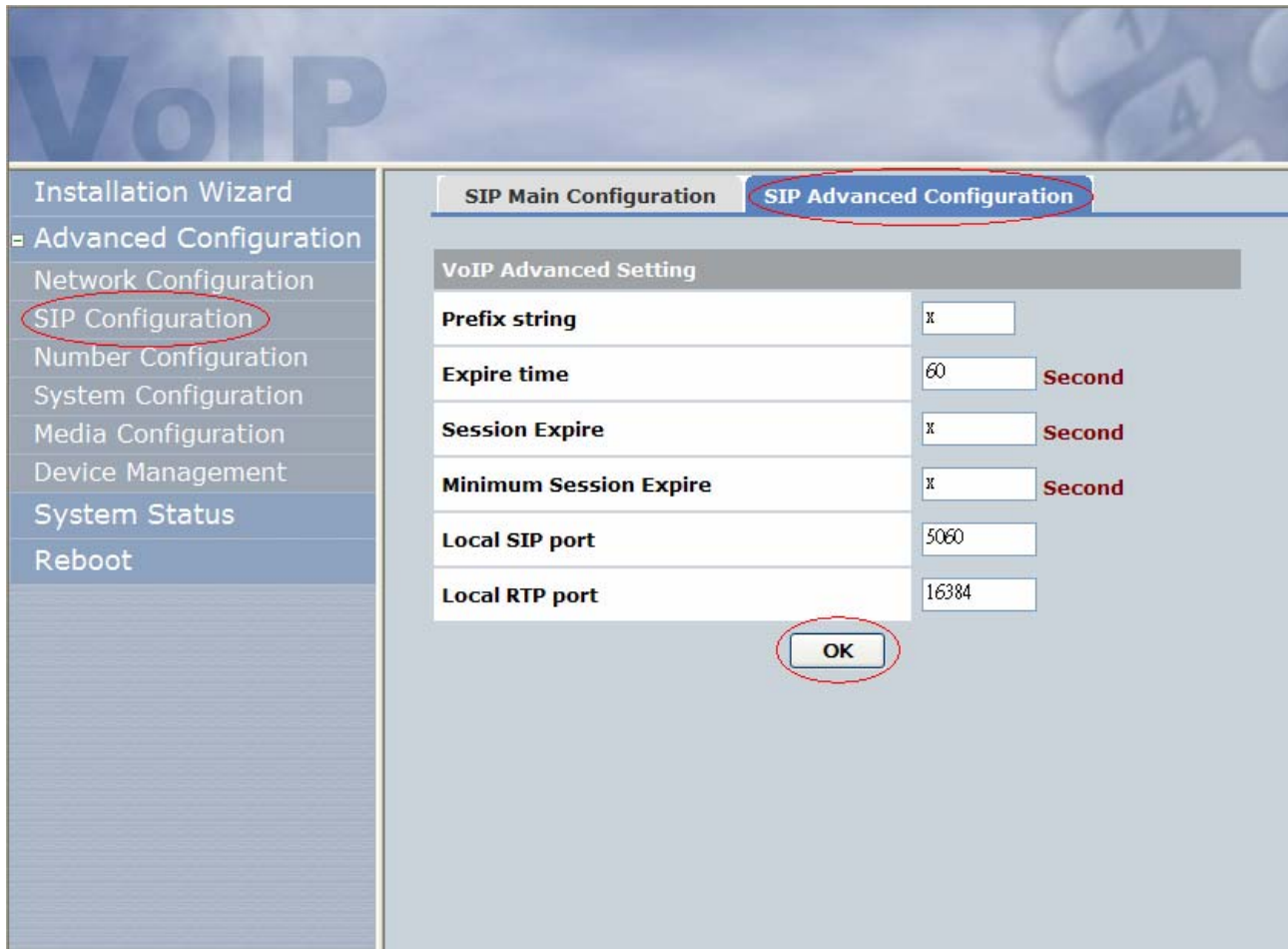
1. Enter the IP address and port number of the SIP proxy into the Primary proxy address and Port fields. Select the line you would like to configure the account on in the Call line drop down list, and enter the relevant phone number, SIP account and password. Once finished, press the OK button to save changes, or press the RESET button to restore back to default values.



2. Press the reboot button to apply the changes.

SIP Advanced Configuration

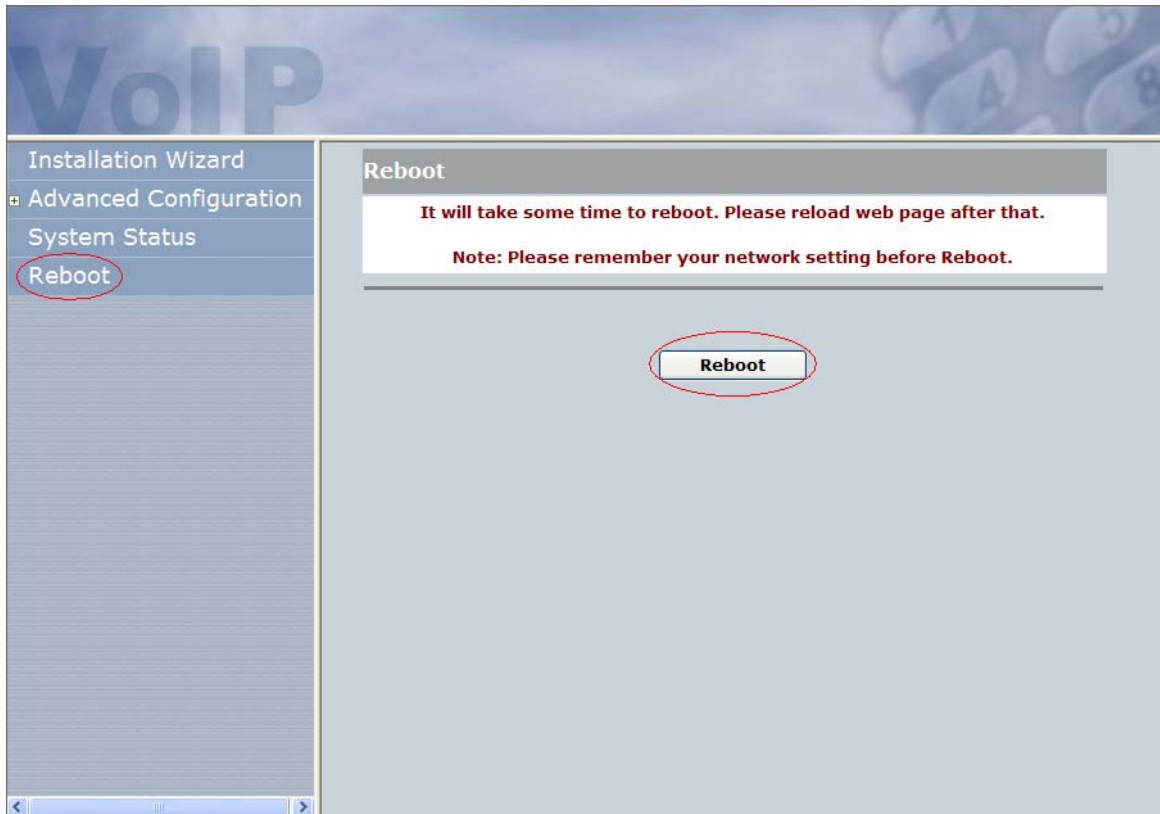
Here are the explanations of the advanced configurations for SIP.



Prefix string	You can specify the prefix number that can be added to the front of the dialed number before it is dialed. For example, set 123 in this field and the user dials 456, then the dialed number will be 123456.
Expire time	Specify the SIP registration expire time.
Session Expire	Specify the session expire time that will be used to negotiate with the remote host or proxy.
Minimum Session Expire	Specify the minimum session expire time that other host or proxy will need

	to follow when calling the WG2608.
Local SIP port	Specify the local SIP port's number.
Local RTP port	Specify the local RTP port's number.

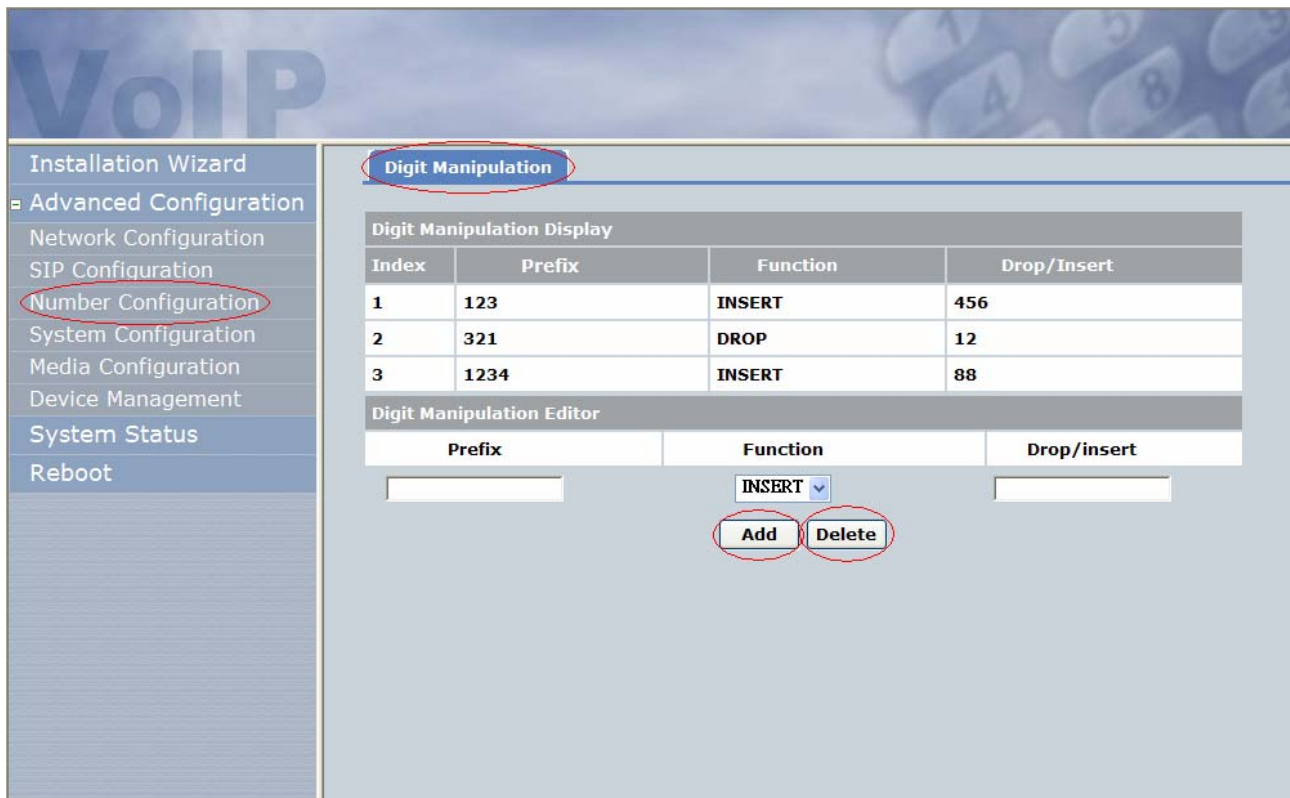
1. Press the OK button (at the bottom) after you finish to save changes.



2. Press the reboot button to apply the changes.

Number Configuration

Digit Manipulation

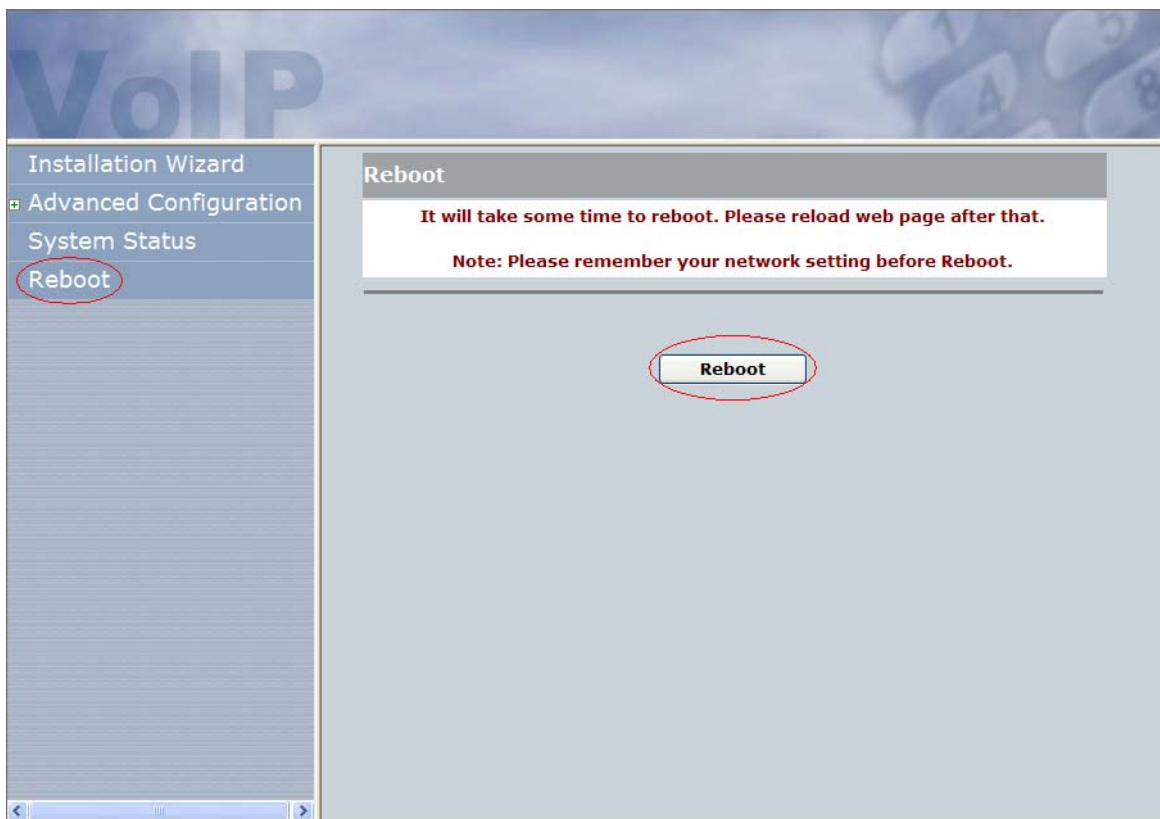


Index	Prefix	Function	Drop/Insert
1	123	INSERT	456
2	321	DROP	12
3	1234	INSERT	88

Prefix	Function	Drop/insert
<input type="text"/>	INSERT	<input type="text"/>

Prefix	Specify the prefix number that will be matched to the dialed number.
Function	Select the function to perform when a prefix matching the dialed number is detected. You can choose the following: <ul style="list-style-type: none"> ● INSERT ● DROP
Drop/Insert	Specify the number to drop/insert to the dialed number when the dialed number matches the prefix specified

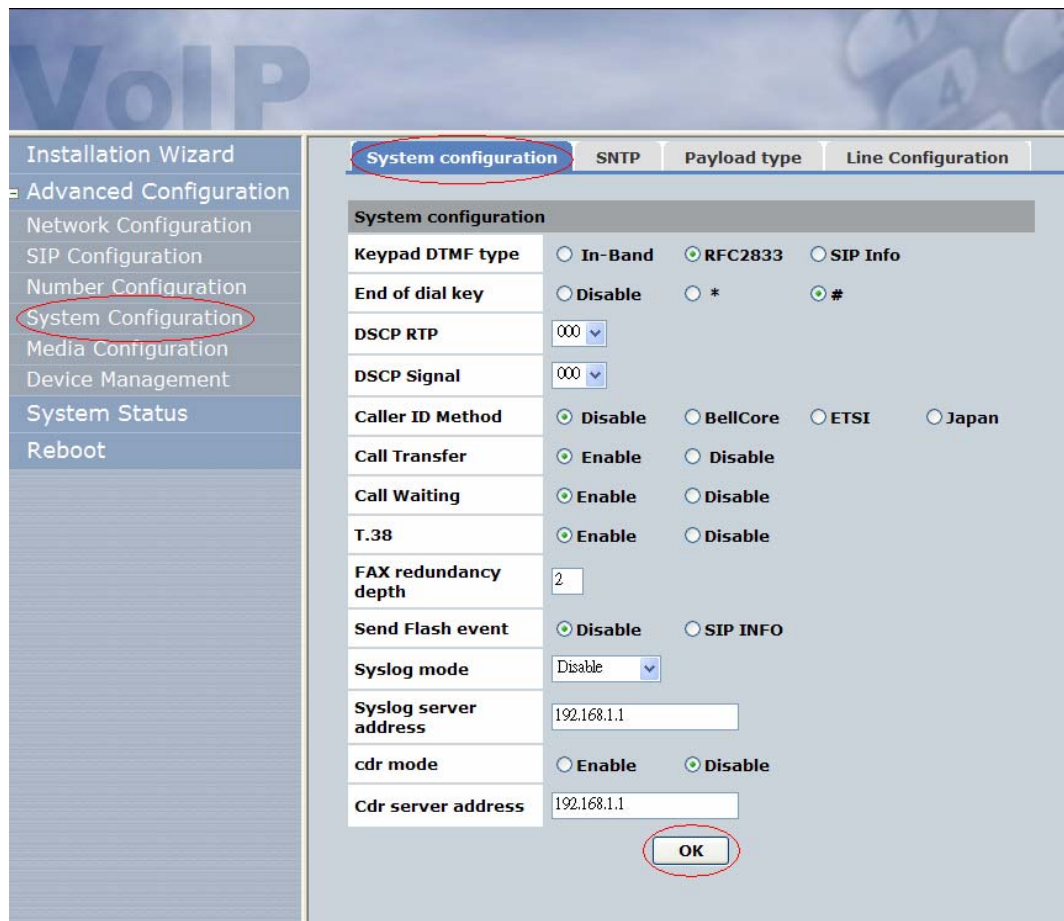
1. Click the Add button (at the bottom) to add a new record in the routing table, to delete a record in the routing table, specify the prefix you want to delete in the prefix text box and click the Delete button.



2. Press the reboot button to apply the changes.

System Configuration

System configuration



The screenshot shows the 'System configuration' web interface. The left sidebar contains a menu with 'System Configuration' highlighted. The main area has tabs for 'System configuration', 'SNTP', 'Payload type', and 'Line Configuration'. The 'System configuration' tab is active, showing various settings. The 'Keypad DTMF type' is set to 'RFC2833'. The 'End of dial key' is set to '#'. The 'DSCP RTP' and 'DSCP Signal' are both set to '000'. The 'Caller ID Method' is set to 'Disable'. The 'Call Transfer' and 'Call Waiting' are both set to 'Enable'. The 'T.38' is set to 'Enable'. The 'FAX redundancy depth' is set to '2'. The 'Send Flash event' is set to 'Disable'. The 'Syslog mode' is set to 'Disable'. The 'Syslog server address' is set to '192.168.1.1'. The 'cdr mode' is set to 'Disable'. The 'Cdr server address' is set to '192.168.1.1'. The 'OK' button is circled.

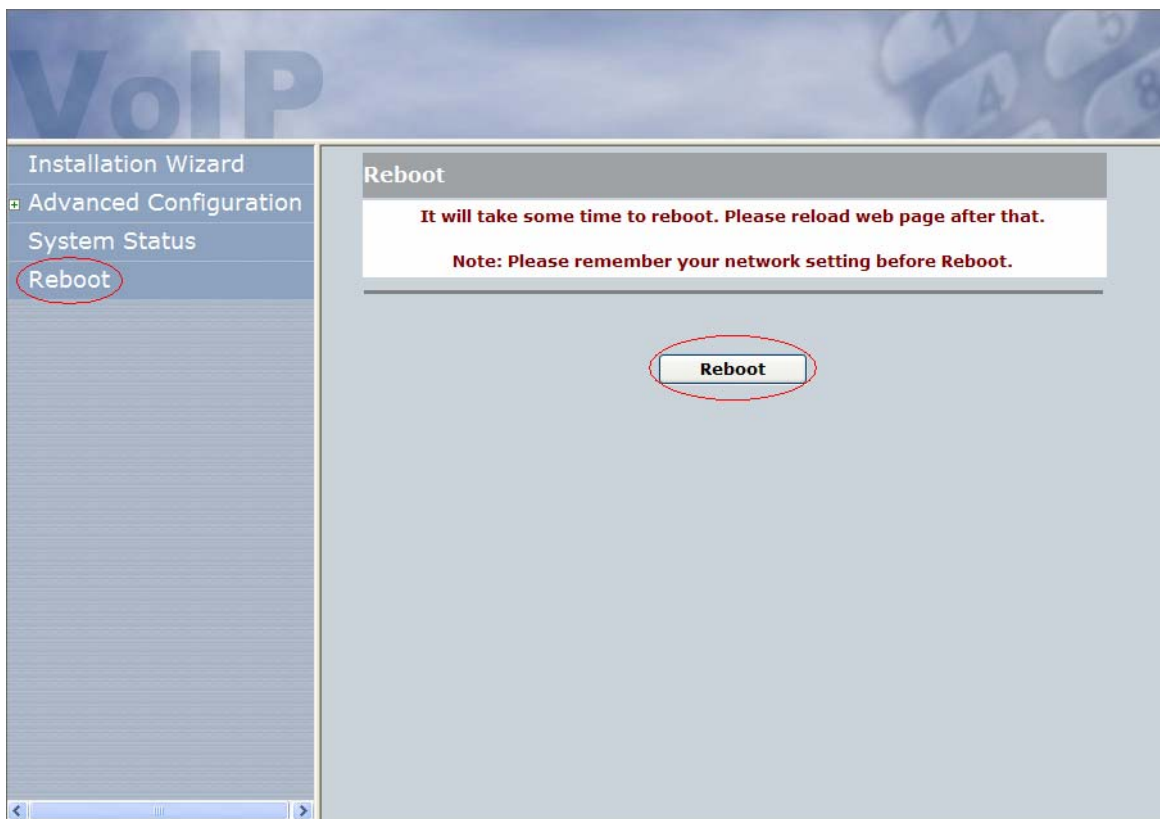
Keypad DTMF type	<p>Select the DTMF signal type that is generated to the destination host/server when the user presses the telephone's touch keys. You can choose the following:</p> <ul style="list-style-type: none"> ● In-Band ● RFC2833 ● SIP Info
End of dial key	<p>Specify the type of end of dial symbol to use for accelerating the dialing process, you can choose the following:</p> <ul style="list-style-type: none"> ● Disable

	<ul style="list-style-type: none">● *● # <p>The "Disable" option will allow you to disable this particular function.</p>
Circuit type	<p>Select the circuit type for the sending of signals generated by pressing the telephones' touch keys. You can choose the following:</p> <ul style="list-style-type: none">● DTMF● DP-10● DP-20
DSCP RTP	<p>Select the DSCP value for RTP (voice packets), the value in the drop down list is expressed in binary format, you can choose the following:</p> <ul style="list-style-type: none">● 000● 001● 010● 011● 100● 101● 110● 111
DSCP Signal	<p>Select the DSCP value for SIP messages, the value in the drop down list is expressed in binary format, you can choose the following:</p> <ul style="list-style-type: none">● 000● 001● 010● 011● 100● 101● 110● 111
Caller ID Method	<p>Specify the Caller ID method to use, you can choose the following:</p> <ul style="list-style-type: none">● Disable

	<ul style="list-style-type: none"> ● Bellcore ● ETSI ● Japan <p>The "Disable" option will allow you to disable this particular function.</p>
Call Transfer	Enable/Disable call transfer feature on the WG2608.
Call Waiting	Enable/Disable call waiting feature on the WG2608.
T.38	Enable/Disable T.38 feature (Fax) on the WG2608.
Fax redundancy depth	Specify the number of retry times when fax fails, the allowable range is 0 ~ 2.
Send Flash event	<p>Specify the type of flash signal to send when the flash button is pressed on the phone, you can choose the following:</p> <ul style="list-style-type: none"> ● Disable ● SIP INFO <p>The "Disable" option will allow you to disable this particular function.</p>
Syslog mode	<p>Specify the type of messages that the log will capture and display, you can choose the following:</p> <ul style="list-style-type: none"> ● Disable ● SIP message <p>The "Disable" option will allow you to disable this particular function.</p>
Syslog server address	Specify the IP address of the syslog server.
cdr mode	<p>Enable/Disable Call Detail Record (CDR) feature, the CDR will store the following details:</p> <ul style="list-style-type: none"> ● CDR record time ● Type (outgoing or incoming) ● Source Number ● Destination Number ● Call ID

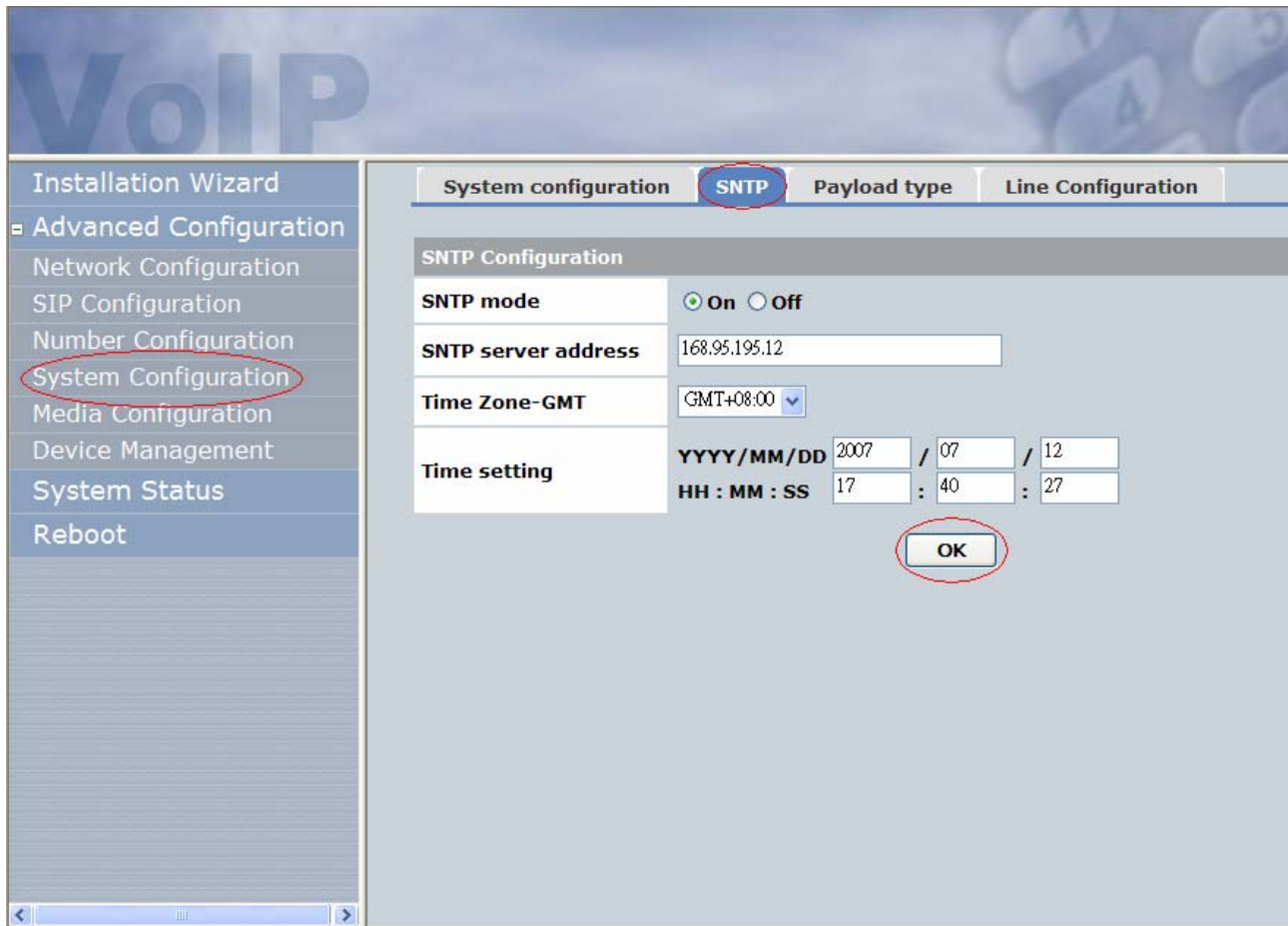
	<ul style="list-style-type: none"> ● Starting time of the phone call (the time of the dial) ● Starting time of the conversation (the time answered) ● Ending time of the call ● Total time of calls ● Billing ● Status
Cdr server address	Specify the IP address of the CDR server.

1. Press the OK button (at the bottom) after you finish to save changes.



2. Press the reboot button to apply the changes.

SNTP configuration



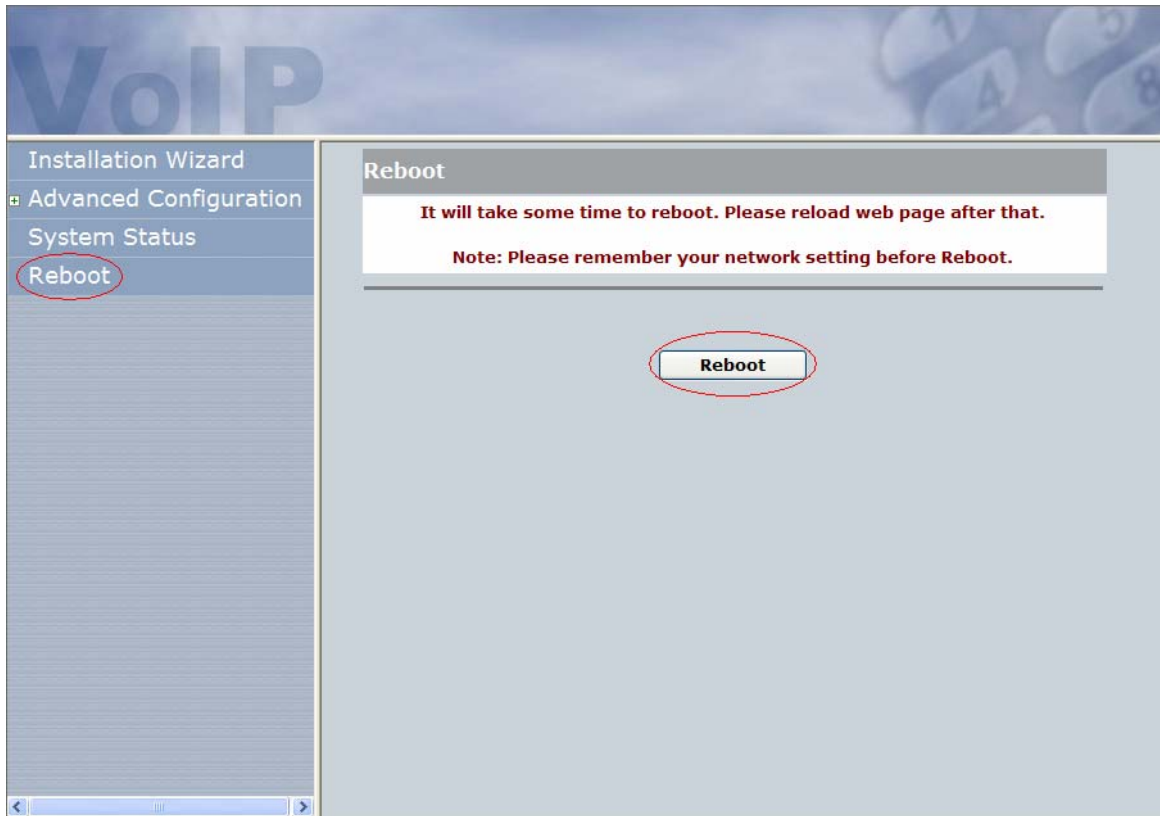
The screenshot shows the 'SNTP Configuration' page in the WellGate 2608 web interface. The left sidebar contains a menu with 'System Configuration' highlighted. The main content area has tabs for 'System configuration', 'SNTP', 'Payload type', and 'Line Configuration'. The 'SNTP' tab is active, showing the following settings:

- SNTP mode:** ☒ On ☐ Off
- SNTP server address:** 168.95.195.12
- Time Zone-GMT:** GMT+08:00
- Time setting:** YYYY/MM/DD 2007 / 07 / 12, HH : MM : SS 17 : 40 : 27

An 'OK' button is located at the bottom right of the configuration area.

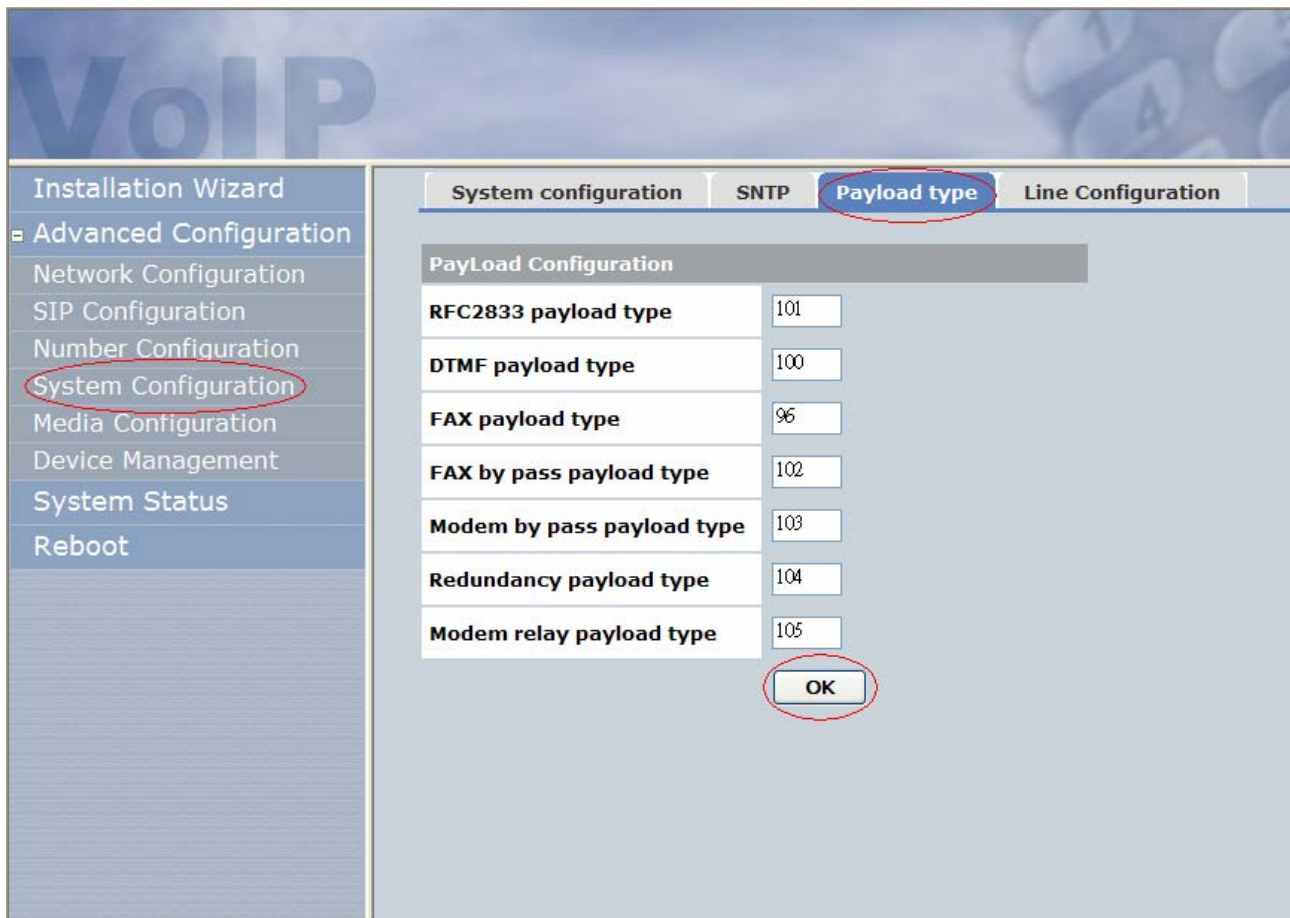
SNTP mode	Enable/Disable SNTP feature on the WG2608.
SNTP server address	Specify the IP address of the SNTP server.
Time Zone-GMT	Select the Time Zone-GMT that is relevant to your country's time zone in the drop down list.
Time setting	The time displayed here is the time retrieved from the SNTP server, the time displayed is synchronized. Therefore, to see the latest time, refresh your web browser.

1. Press the OK button (at the bottom) after you finish to save changes.



2. Press the reboot button to apply the changes.

Payload type



The screenshot shows the 'Payload type' configuration screen. The left sidebar contains a menu with 'System Configuration' highlighted. The main area has tabs for 'System configuration', 'SNTP', 'Payload type', and 'Line Configuration'. The 'Payload type' tab is active, showing a 'PayLoad Configuration' section with the following settings:

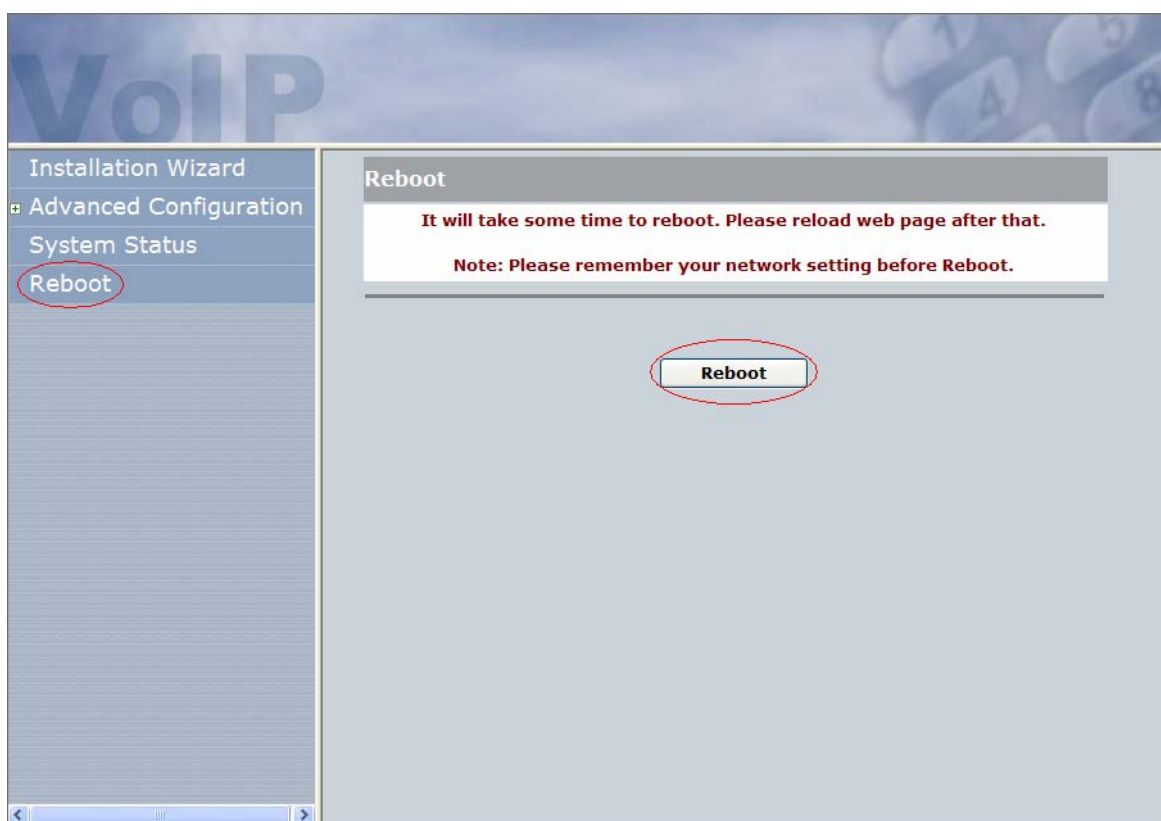
Configuration Item	Value
RFC2833 payload type	101
DTMF payload type	100
FAX payload type	96
FAX by pass payload type	102
Modem by pass payload type	103
Redundancy payload type	104
Modem relay payload type	105

An 'OK' button is located at the bottom right of the configuration area.

RFC2833 payload type	Specify the RFC2833 payload type (range is 96~128, however 100, 102~105 is reserved by other payload types).
DTMF payload type	Specify the DTMF payload (range is 96~128, default value is 100, 102~105 is reserved by other payload types).
FAX payload type	Specify the FAX payload type (range is 96~128, however 100, 102~105 is reserved by other payload types)
FAX by pass payload type	Specify the FAX by pass payload type (range is 96~128, default value is 102. 100, 103~105 is reserved by other payload types).

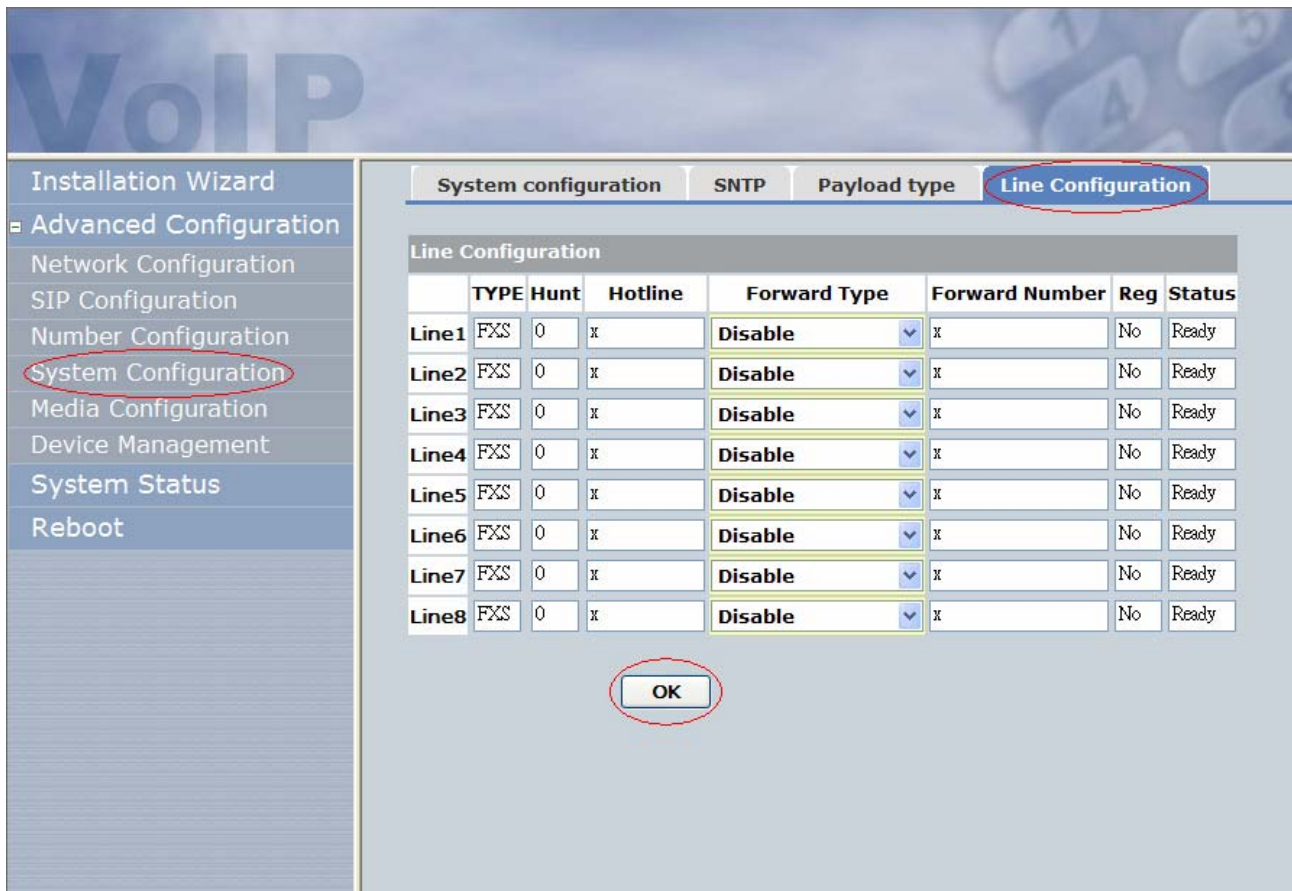
Modem by pass payload type	Specify the Modem by pass payload type (range is 96~128, default value is 103. 100, 102, 104, 105 is reserved by other payload types).
Redundancy payload type	Specify the Redundancy payload type (range is 96~128, default value is 104. 100, 102, 103, 105 is reserved by other payload types).
Modem relay payload type	Specify the Modem relay payload type (range is 96~128, default value is 105. 100, 102~104 is reserved by other payload types).

1. Press the OK button (at the bottom) after you finish to save changes.



2. Press the reboot button to apply the changes.

Line Configuration



The screenshot displays the 'Line Configuration' tab in the VoIP configuration interface. The sidebar on the left contains the following menu items: Installation Wizard, Advanced Configuration, Network Configuration, SIP Configuration, Number Configuration, System Configuration (highlighted with a red circle), Media Configuration, Device Management, System Status, and Reboot. The main configuration area shows a table for configuring 8 lines. The table has the following columns: TYPE, Hunt, Hotline, Forward Type, Forward Number, Reg, and Status. The data for each line is as follows:

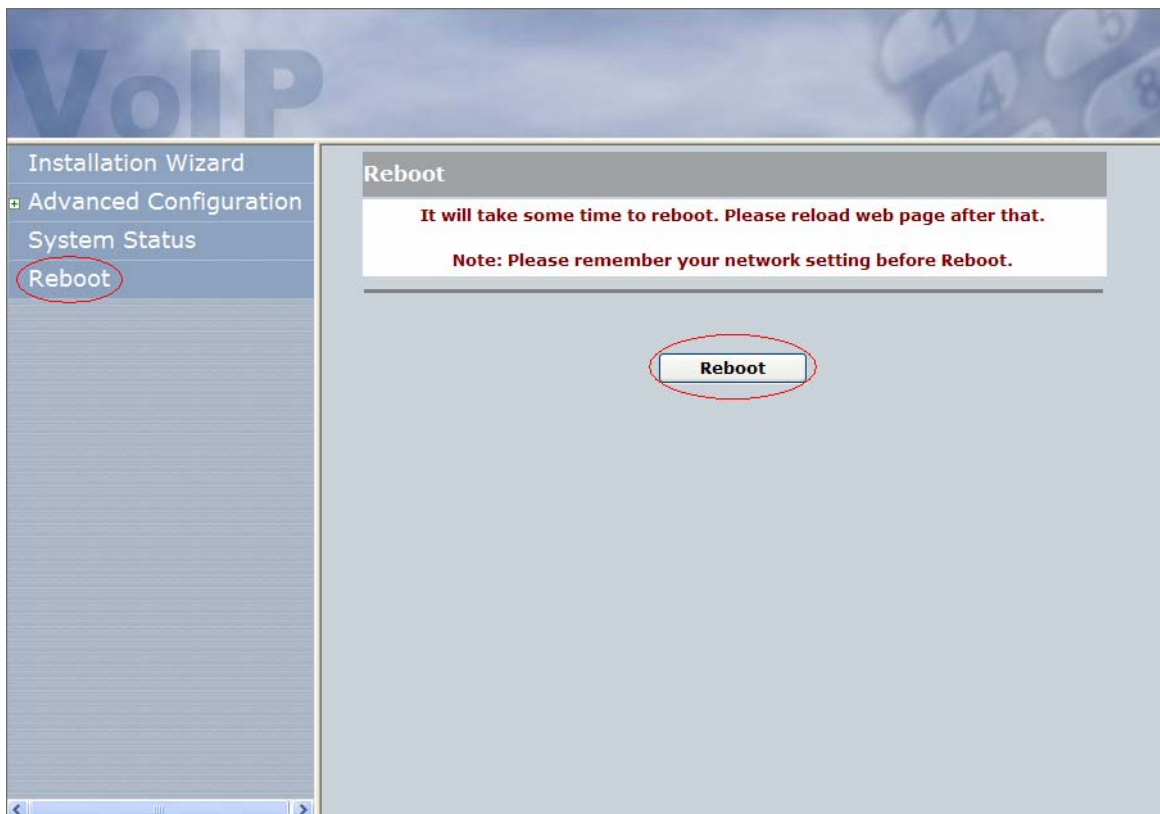
	TYPE	Hunt	Hotline	Forward Type	Forward Number	Reg	Status
Line1	FXS	0	x	Disable	x	No	Ready
Line2	FXS	0	x	Disable	x	No	Ready
Line3	FXS	0	x	Disable	x	No	Ready
Line4	FXS	0	x	Disable	x	No	Ready
Line5	FXS	0	x	Disable	x	No	Ready
Line6	FXS	0	x	Disable	x	No	Ready
Line7	FXS	0	x	Disable	x	No	Ready
Line8	FXS	0	x	Disable	x	No	Ready

Below the table, there is an 'OK' button circled in red.

Type	Displays the port type of that particular line.
Hunt	Specify the group number for this line, when the line is busy, a call made to the busy line will be transferred to another line that share the same group number.
Hotline	Enable/Disable hotline feature, the hotline feature will be enabled if you enter a number in this field. To disable this function, input the value "x" in this field.
Forward Type	Specify the forwarding type to use, you can choose the following: <ul style="list-style-type: none"> ● Disable ● Unconditional

	<ul style="list-style-type: none"> ● Busy ● No Answer <p>The "Disable" option will allow you to disable this particular function.</p>
Forward Number	Specify the number to forward the call to when the call forwarding feature is enabled.
Reg	Displays the registration status, whether it is registered or not.
Status	Displays the line status, whether it is ready or busy.

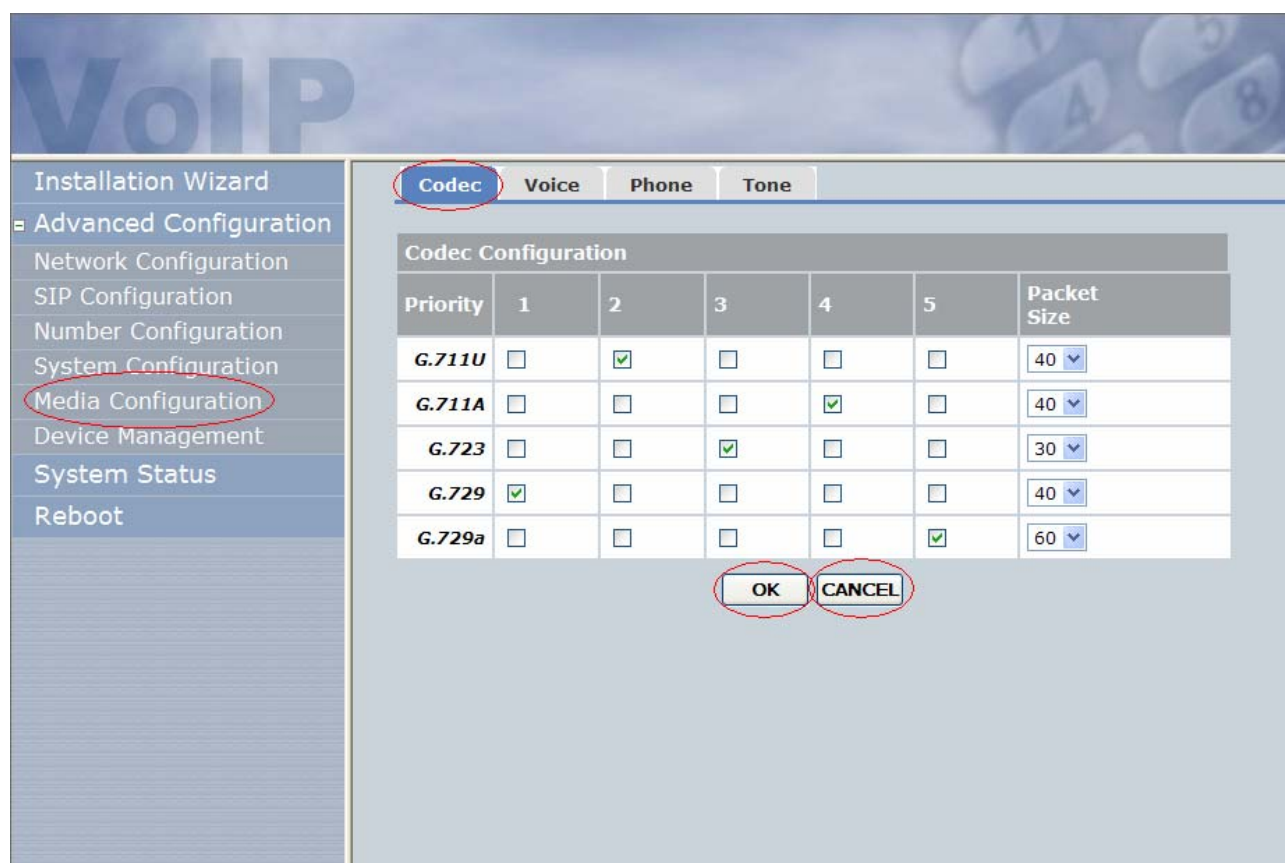
1. Press the OK button (at the bottom) after you finish to save changes.



2. Press the reboot button to apply the changes.

Media Configuration

Codec



Codec Configuration

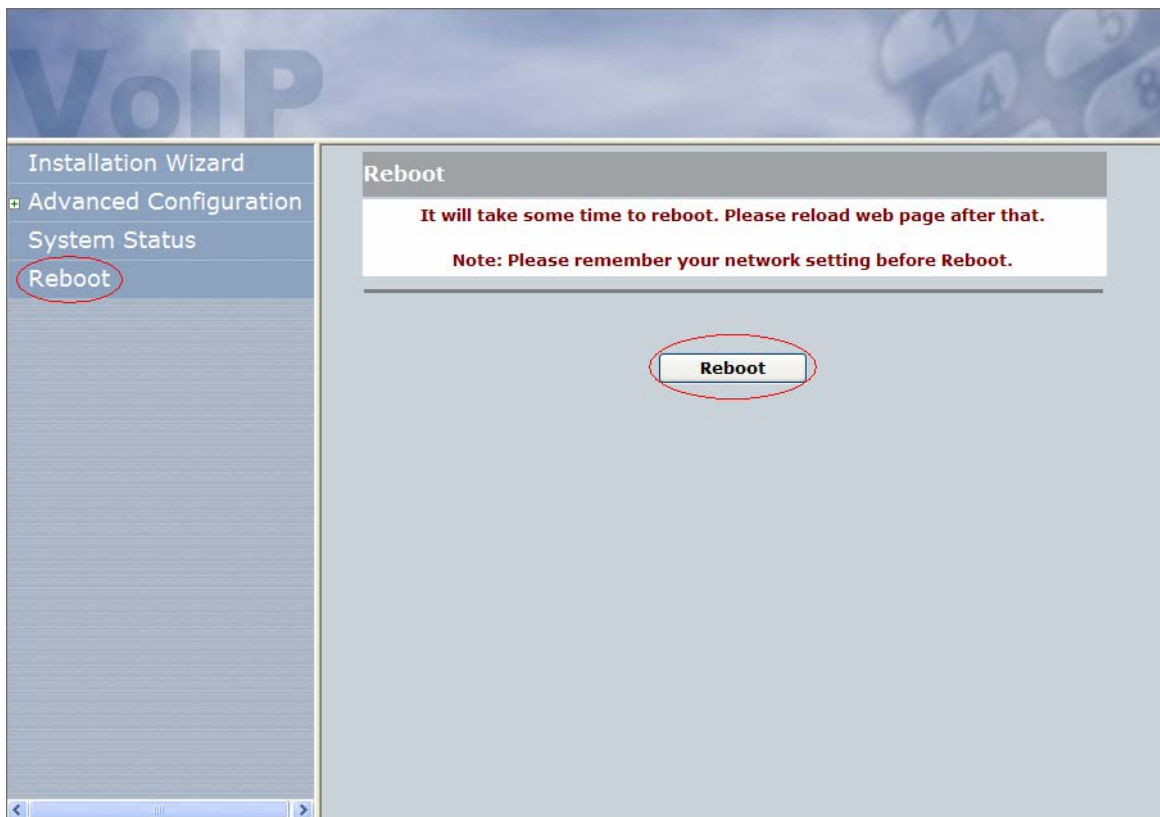
Priority	1	2	3	4	5	Packet Size
G.711U	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40 ▾
G.711A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	40 ▾
G.723	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30 ▾
G.729	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40 ▾
G.729a	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	60 ▾

OK CANCEL

Priority	
G.711U	<p>You can specify the priority of this codec from 1 to 5 (1 being the highest priority and 5 being the lowest). You can also specify the packet size in the drop down list for this particular codec, you can choose the following:</p> <ul style="list-style-type: none"> ● 20 ● 40 ● 60
G.711A	<p>You can specify the priority of this codec from 1 to 5 (1 being the highest priority and 5 being the lowest). You can also specify the packet size in the</p>

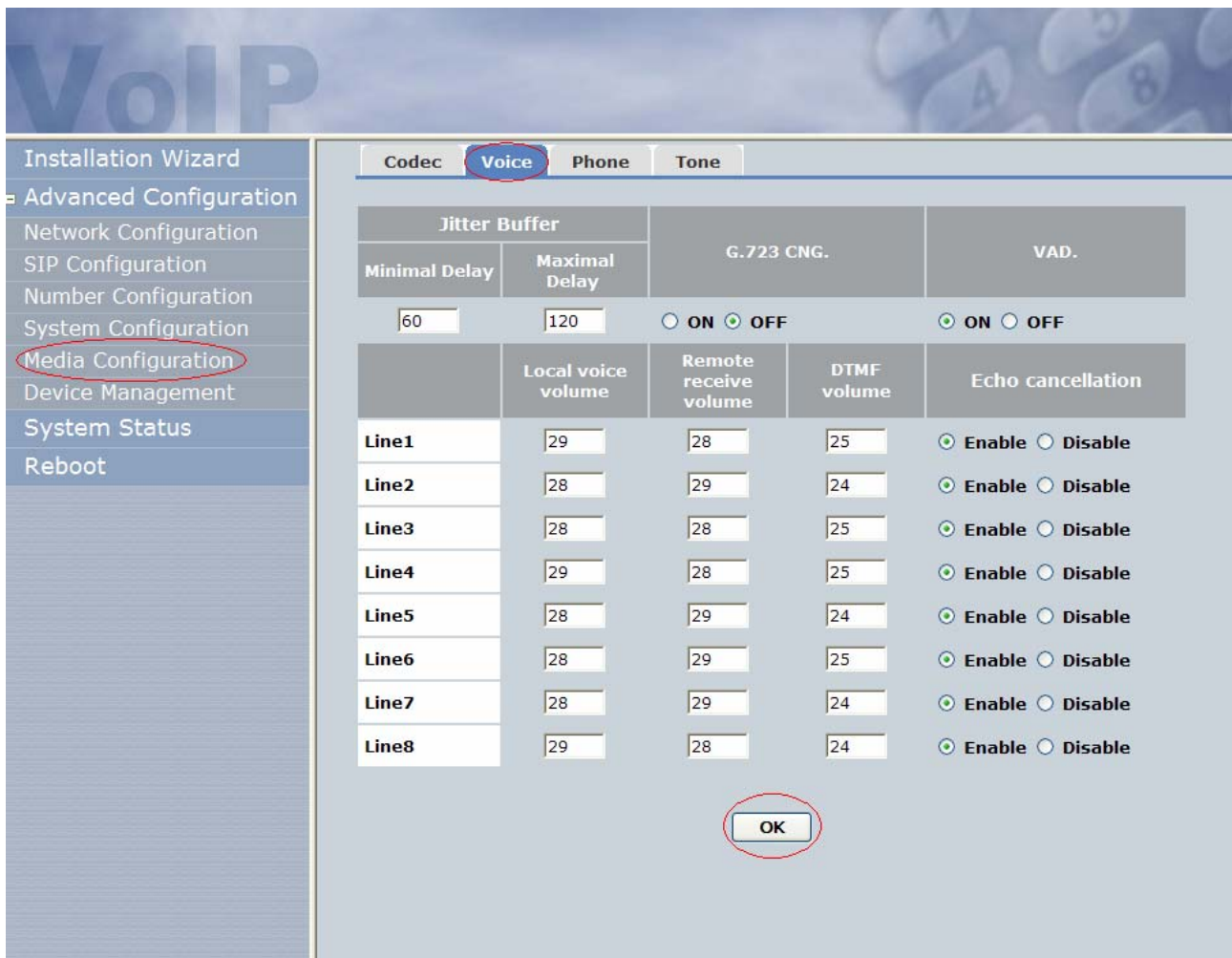
	<p>drop down list for this particular codec, you can choose the following:</p> <ul style="list-style-type: none">● 20● 40● 60
G.723	<p>You can specify the priority of this codec from 1 to 5 (1 being the highest priority and 5 being the lowest). You can also specify the packet size in the drop down list for this particular codec, you can choose the following:</p> <ul style="list-style-type: none">● 30● 60
G.729	<p>You can specify the priority of this codec from 1 to 5 (1 being the highest priority and 5 being the lowest). You can also specify the packet size in the drop down list for this particular codec, you can choose the following:</p> <ul style="list-style-type: none">● 20● 40● 60
G.729a	<p>You can specify the priority of this codec from 1 to 5 (1 being the highest priority and 5 being the lowest). You can also specify the packet size in the drop down list for this particular codec, you can choose the following:</p> <ul style="list-style-type: none">● 20● 40● 60

1. Press the OK button (at the bottom) after you finish to save changes.
2. Press the CANCEL button (next to the CANCEL button) to restore back to default values.



1. Press the reboot button to apply the changes.

Voice

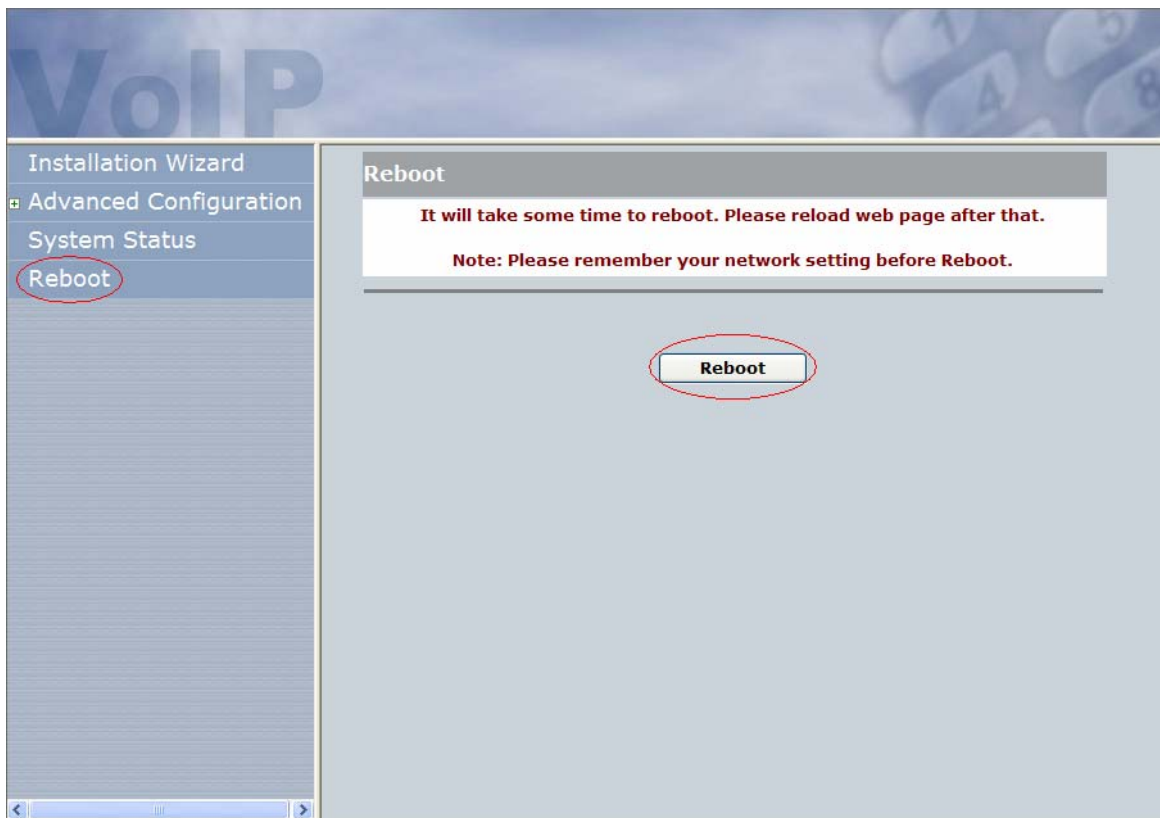


The screenshot shows the 'Voice' configuration tab in the WellGate 2608 interface. The sidebar on the left lists various configuration options, with 'Media Configuration' highlighted. The main configuration area is divided into several sections: 'Jitter Buffer' with input fields for 'Minimal Delay' (60) and 'Maximal Delay' (120); 'G.723 CNG.' with a radio button set to 'OFF'; and 'VAD.' with a radio button set to 'ON'. Below these are eight rows, each representing a line (Line1 to Line8). Each row contains input fields for 'Local voice volume', 'Remote receive volume', and 'DTMF volume', followed by an 'Echo cancellation' section with 'Enable' (selected) and 'Disable' radio buttons. An 'OK' button is located at the bottom center of the configuration area.

Jitter Buffer	
Minimal Delay	Specify the minimal delay of the jitter buffer.
Maximal Delay	Specify the maximal delay of the jitter buffer.
G.723 CNG	Enable/Disable the CNG feature, this is only supported for the G.723 codec.
VAD	Enable/Disable the VAD feature. This is supported on all codec that the WG2608 equips.
Local voice volume	Specify the volume gain of the voice in the local side (0~63, default is 28). You can set this option for each of the 8 lines.

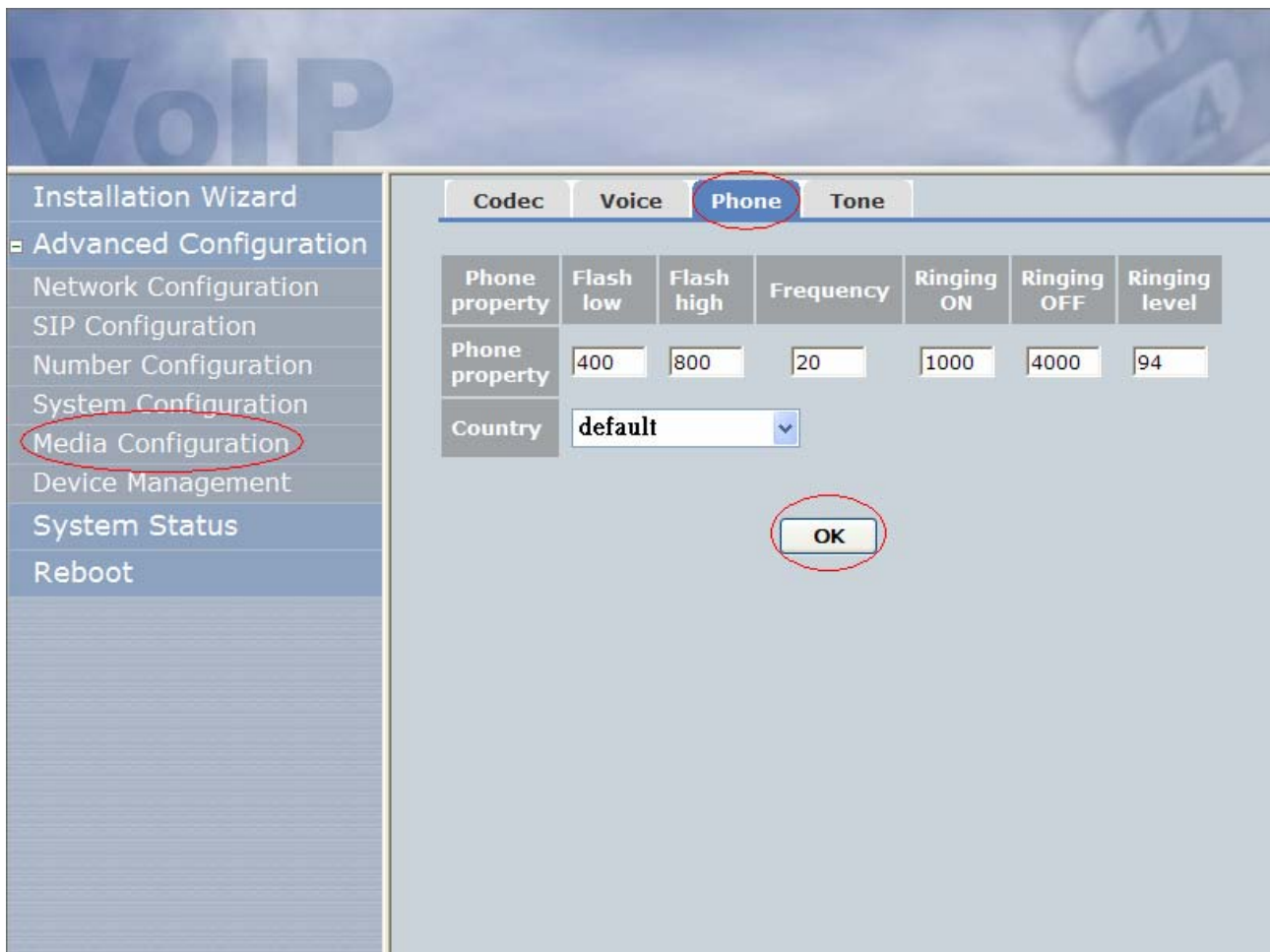
Remote receive volume	Specify the volume gain of the voice in the remote side (0~38, default is 28). You can set this option for each of the 8 lines.
DTMF volume	Specify the volume gain of the DTMF (0~31, default is 23). You can set this option for each of the 8 lines.
Echo cancellation	Enable/Disable the echo cancellation feature. You can set this option for each of the 8 lines.

1. Press the OK button (at the bottom) after you finish to save changes.



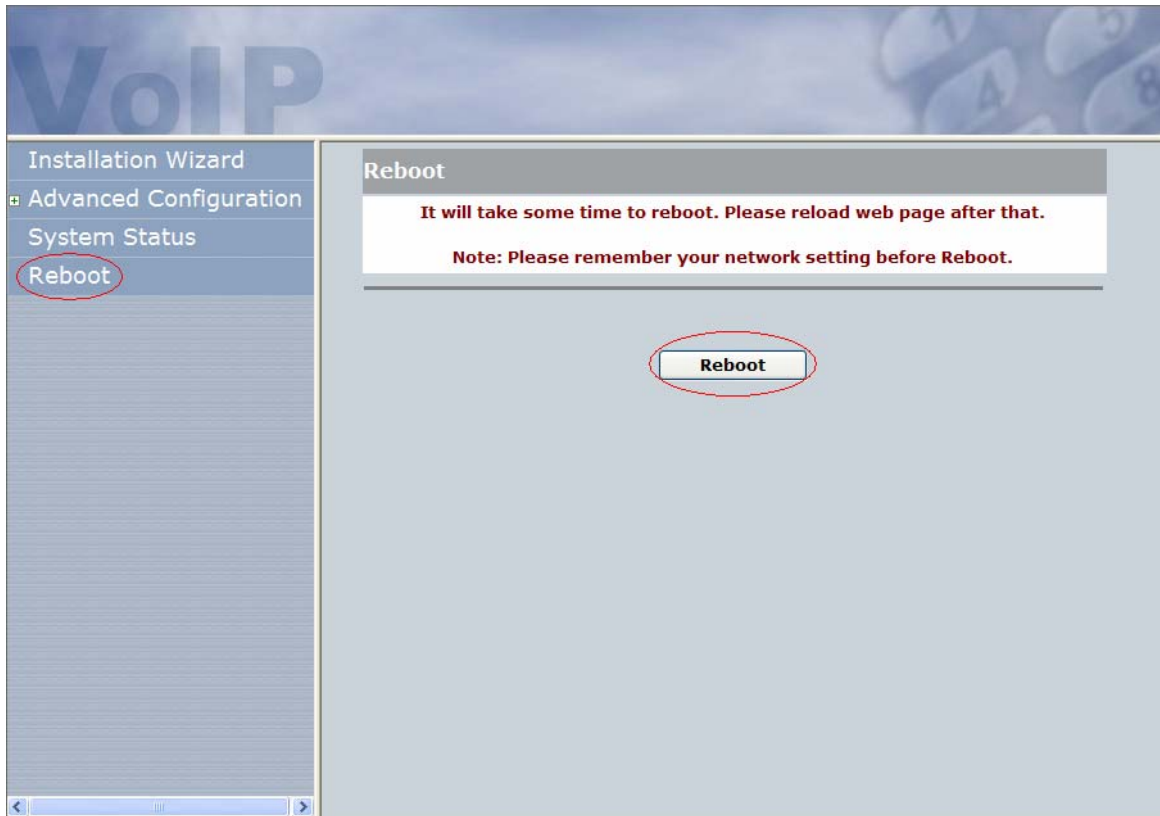
2. Press the reboot button to apply the changes.

Phone



Flash low	Specify the value of the flash (low).
Flash high	Specify the value of the flash (high).
Frequency	Specify the frequency value.
Ringing ON	Specify the Ringing ON value.
Ringing OFF	Specify the Ringing OFF value.
Ringing level	Specify the ringing level.
Country	Specify the ringing standard to use.

1. Press the OK button (at the bottom) after you finish to save changes.

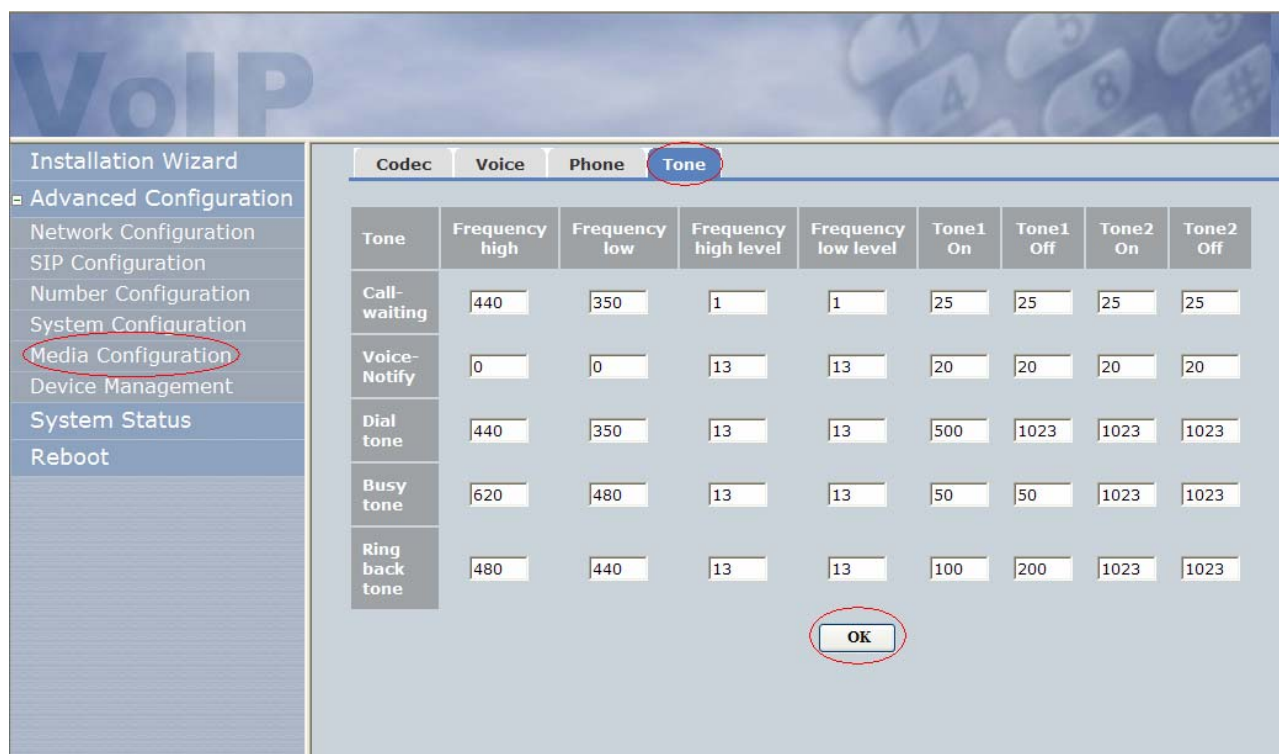


2. Press the reboot button to apply the changes.

Note:

ringing frequency : 15 ~ 100 (Unit : Hz)
ringing ring ON/OFF : 0 ~ 8000 (Unit : ms)
ringing level : 0 ~ 94 (Unit : V)
tone frequency : 0 ~ 65535 (Unit : Hz)
tone freqLevel : 0 ~ 65535 (Unit : mVrms)
tone Tone ON/OFF : 0 ~ 8000 (Unit : ms)

Tone



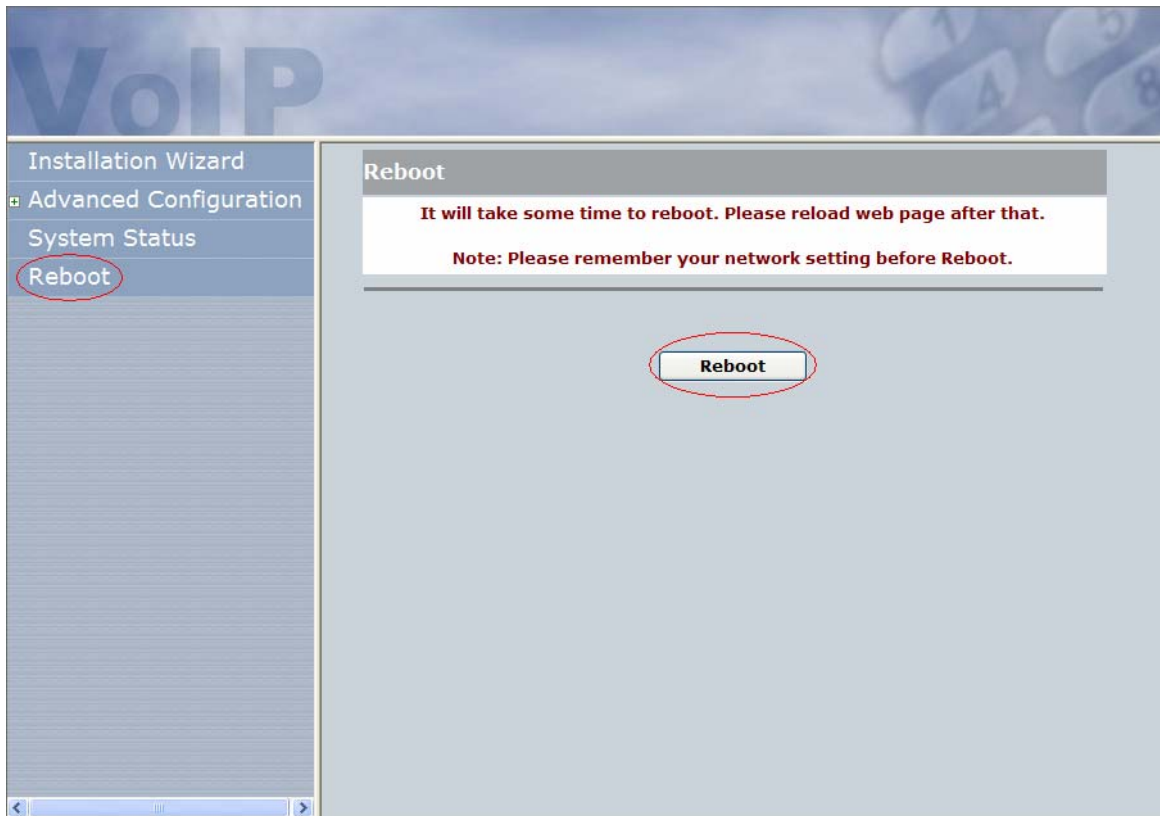
Tone	Frequency high	Frequency low	Frequency high level	Frequency low level	Tone1 On	Tone1 Off	Tone2 On	Tone2 Off
Call-waiting	440	350	1	1	25	25	25	25
Voice-Notify	0	0	13	13	20	20	20	20
Dial tone	440	350	13	13	500	1023	1023	1023
Busy tone	620	480	13	13	50	50	1023	1023
Ring back tone	480	440	13	13	100	200	1023	1023

OK

Call-waiting	Specify the pattern of the call-waiting tone, you can adjust the high frequency, low frequency, high level, low level, the On and Off time for tone 1 and 2.
Voice-Notify	Specify the pattern of the Voice-Notify, you can adjust the high frequency, low frequency, high level, low level, the On and Off time for tone 1 and 2.
Dial tone	Specify the pattern of the Dial tone, you can adjust the high frequency, low frequency, high level, low level, the On and Off time for tone 1 and 2.
Busy tone	Specify the pattern of the Busy tone, you can adjust the high frequency, low frequency, high level, low level, the On and Off time for tone 1 and 2.
Ringback tone	Specify the pattern of the Ringback tone, you can adjust the high

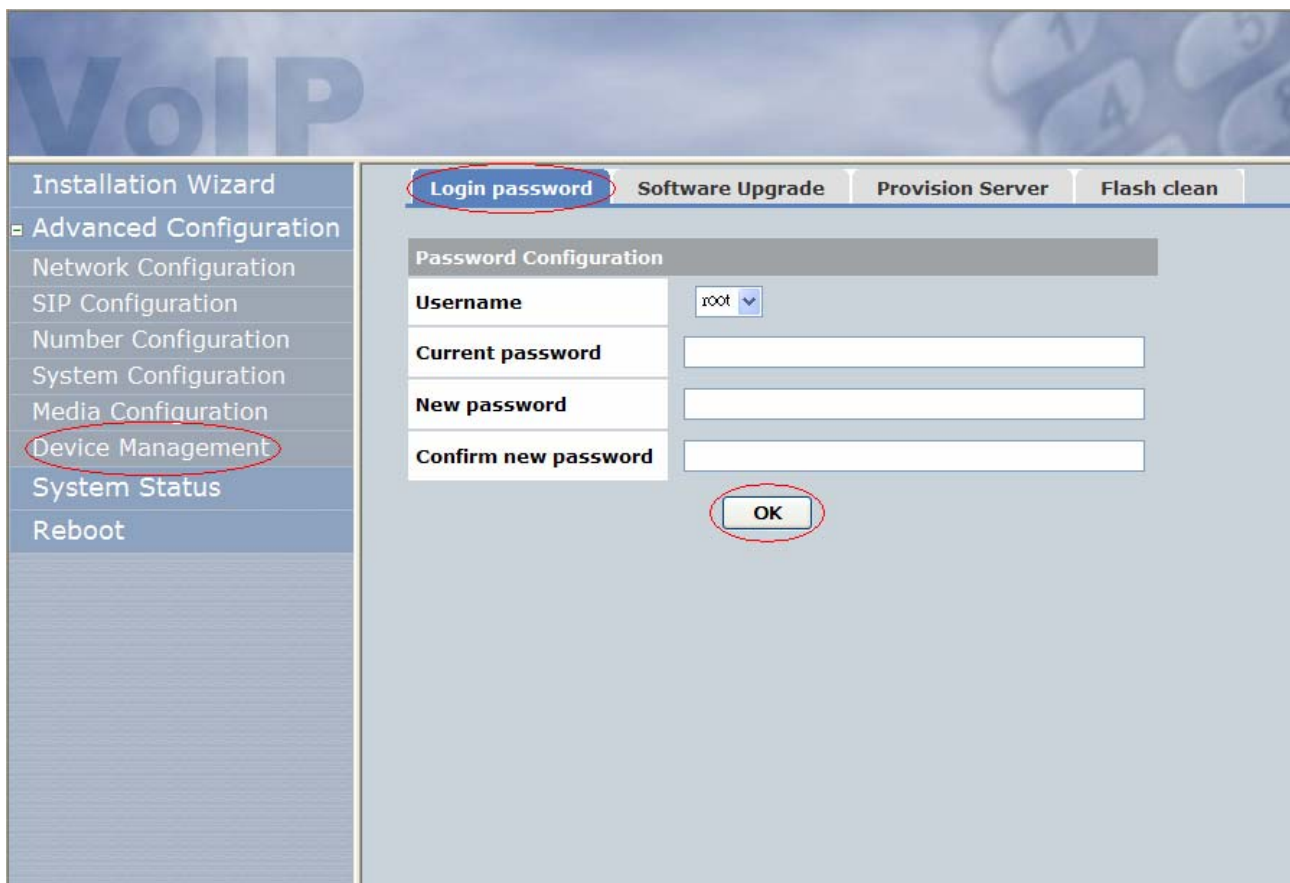
	frequency, low frequency, high level, low level, the On and Off time for tone 1 and 2.
--	--

1. Press the OK button (at the bottom) after you finish to save changes.



2. Press the reboot button to apply the changes.

Device Management

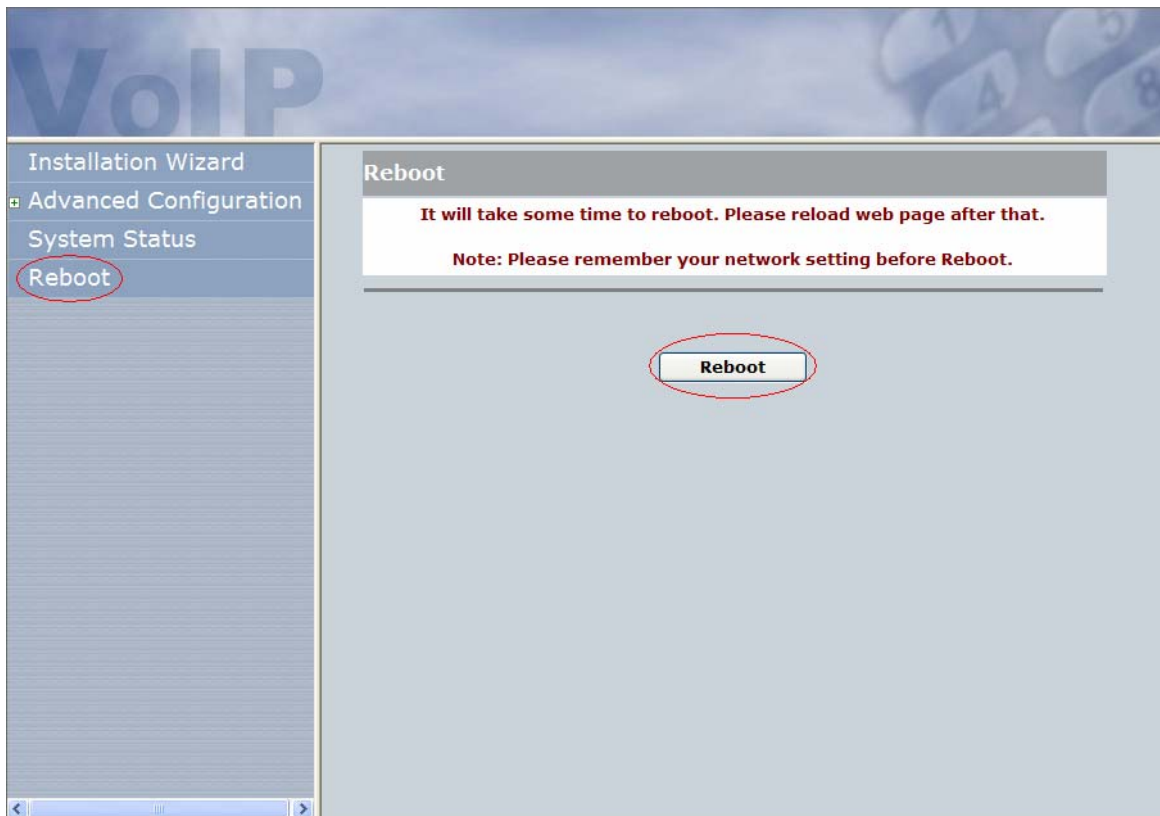


The screenshot shows the 'Login password' configuration page in the WellGate 2608 web interface. The left sidebar contains a menu with 'Device Management' highlighted. The main content area has tabs for 'Login password', 'Software Upgrade', 'Provision Server', and 'Flash clean'. The 'Login password' tab is active, showing a 'Password Configuration' form with fields for 'Username' (set to 'root'), 'Current password', 'New password', and 'Confirm new password'. An 'OK' button is at the bottom.

Login password

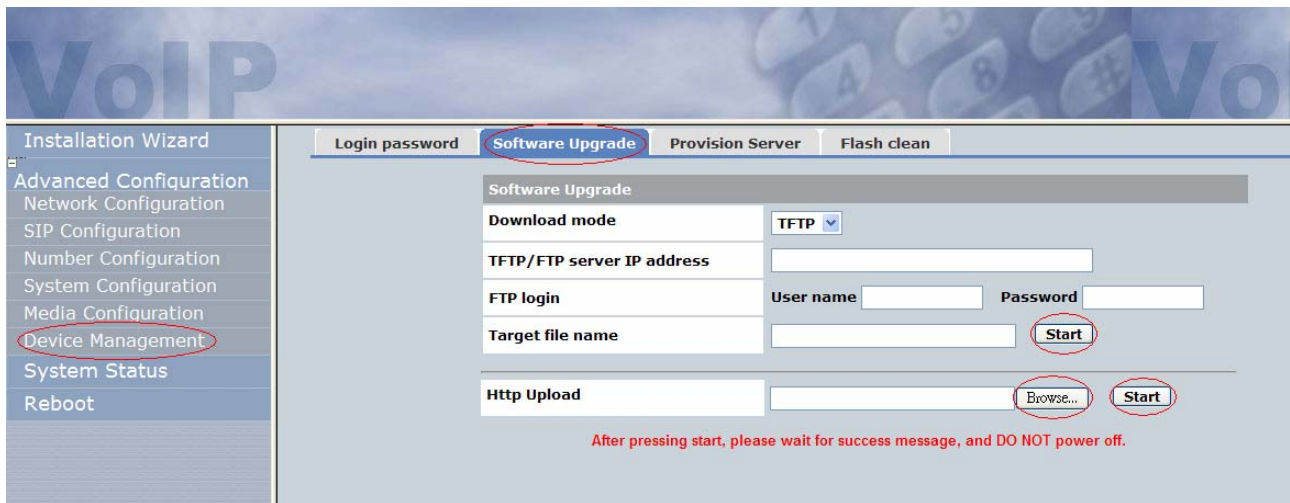
Username	Select the type of user name that you would like to configure the password for, you can choose the following: <ul style="list-style-type: none"> ● root ● user
Current password	Specify the current password for the user selected in the drop down list above.
New password	Specify the new password for the user selected in the drop down list above.
Confirm new password	Repeat the new password again for confirmation.

1. Press the OK button (at the bottom) after you finish to save changes.



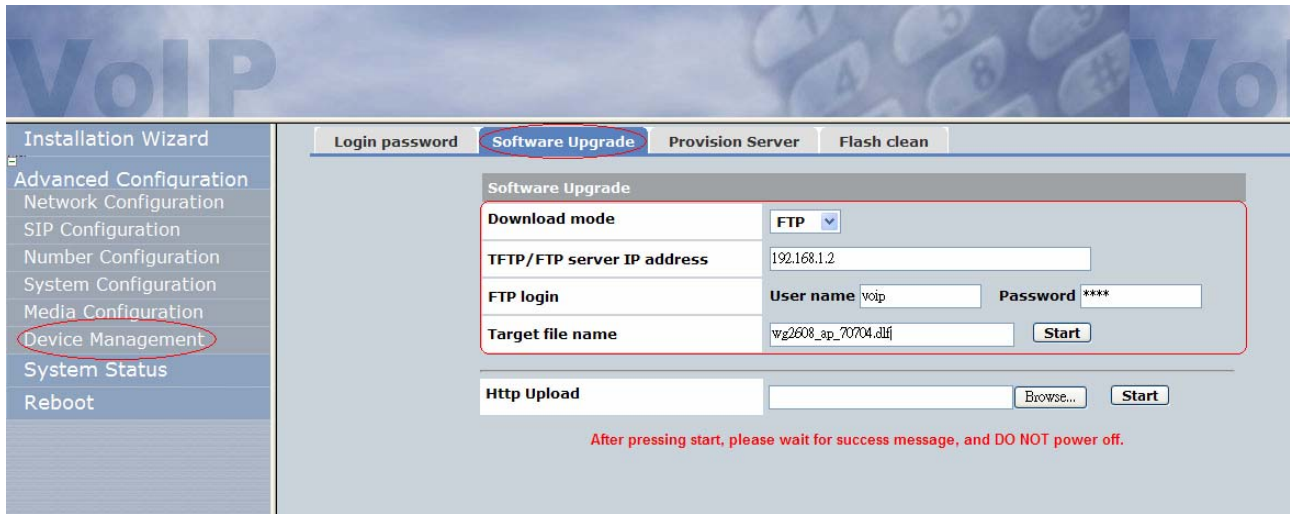
2. Press the reboot button to apply the changes.

Software Upgrade



Download mode	Select the connection method to update the WG2608's firmware, you can choose the following: <ul style="list-style-type: none"> ● TFTP ● FTP
TFTP/FTP server IP address	Specify the TFTP/FTP server's IP address.
FTP login	Specify the login username/password for the FTP server.
Target file name	Specify the target file name for the firmware.
Http Upload	Specify the location of the firmware for uploading through Http.

Updating the firmware by FTP



Installation Wizard

Advanced Configuration

Network Configuration

SIP Configuration

Number Configuration

System Configuration

Media Configuration

Device Management

System Status

Reboot

Login password

Software Upgrade

Provision Server

Flash clean

Software Upgrade

Download mode

FTP

TFTP/FTP server IP address

192.168.1.2

FTP login

User name

voip

Password

Target file name

wg2608_ap_70704.dlq

Start

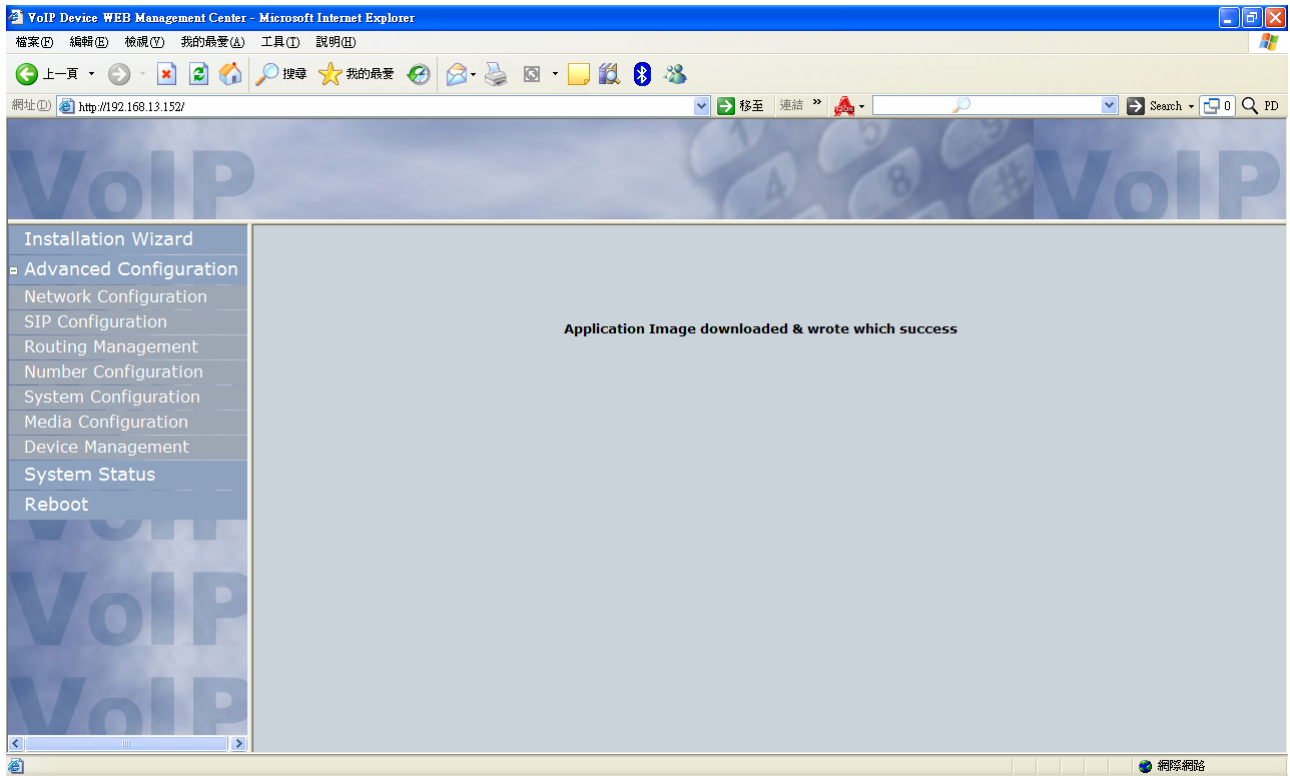
Http Upload

Browse...

Start

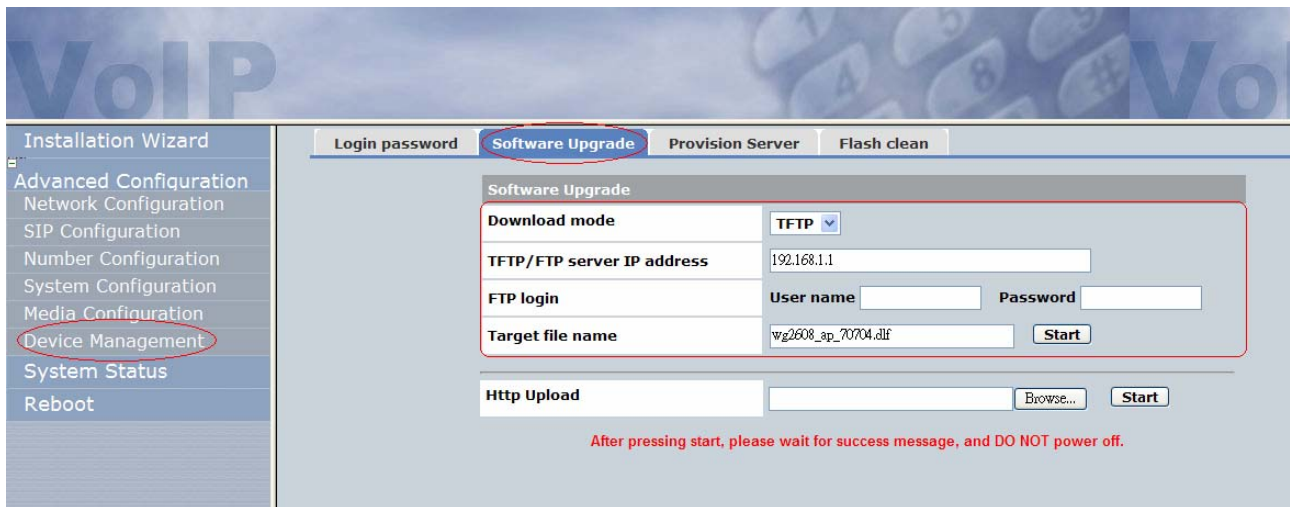
After pressing start, please wait for success message, and DO NOT power off.

1. Select FTP mode in the drop down list.
2. Key in the IP address, login name, password of your FTP server and specify the correct filename of the firmware.
3. Press the Start button (next to the Target file name text box) to execute the upgrade process.
4. Please wait while the device updates itself with the firmware.
5. After the update process is finish, you will be taken to a web page indicating that it was successful (see figure below).

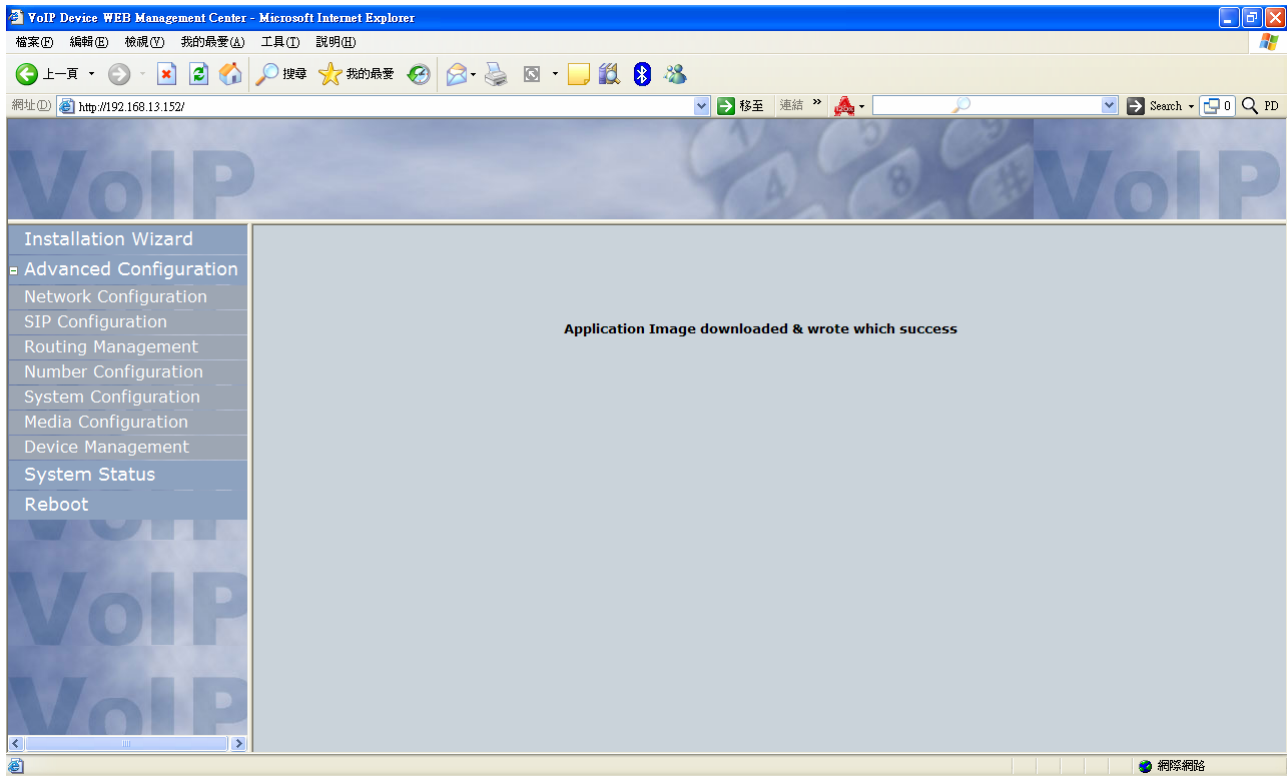


6. Press the reboot button to apply the changes.

Updating the firmware by TFTP

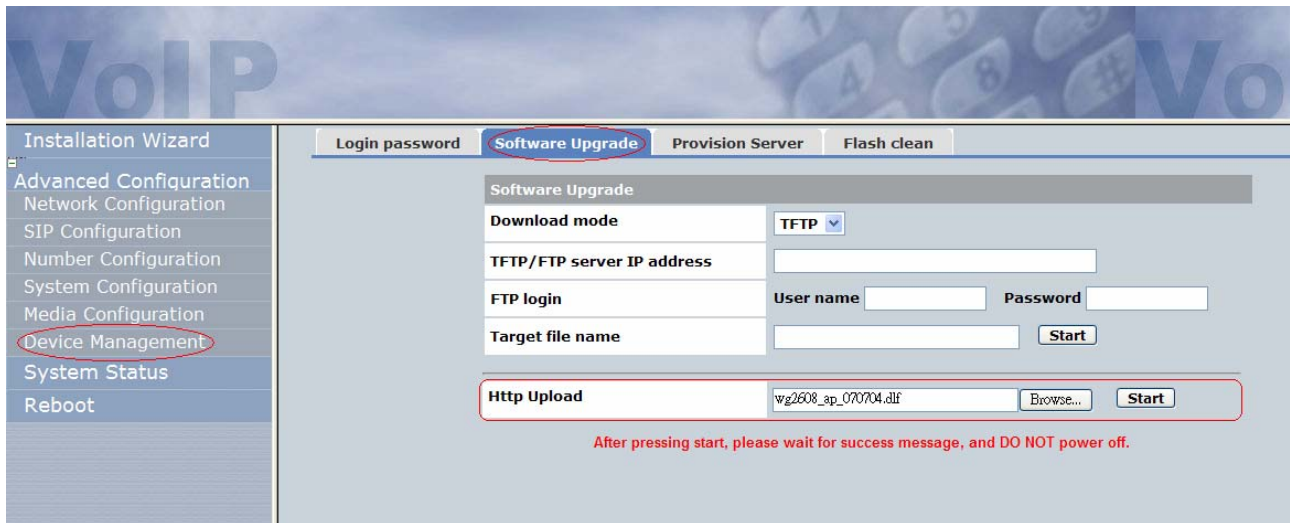


1. First, download the TFTP program from our website <http://www.welltech.com/support/utility.htm>. Unzip the TFTP to a directory that you desire in your hard drive and execute the TFTP program. Make sure that the TFTP program points to the directory of where your firmware is stored. Now, leave the TFTP program running and switch back to the WG2608 web configuration interface.
2. Under Device Management => Software Upgrade select TFTP mode in the drop down list.
3. Key in the IP address of the TFTP server and specify the correct filename of the firmware.
4. Press the Start button (next to the Target file name text box) to execute the upgrade process.
5. Please wait while the device updates itself with the firmware.
6. After the update process is finish, you will be taken to a web page indicating that it was successful (see figure below).



7. Press the reboot button to apply the changes.

Updating the firmware by HTTP



VoIP

Installation Wizard

Advanced Configuration

Network Configuration

SIP Configuration

Number Configuration

System Configuration

Media Configuration

Device Management

System Status

Reboot

Login password

Software Upgrade

Provision Server

Flash clean

Software Upgrade

Download mode

TFTP

TFTP/FTP server IP address

FTP login

User name

Password

Target file name

Start

Http Upload

wg2608_ap_070704.dlf

Browse...

Start

After pressing start, please wait for success message, and DO NOT power off.

1. Under Device Management => Software Upgrade web menu, specify the location of the firmware by clicking the Browse button next to the Http Upload text box.
2. You will be prompted with a window requesting the location of the firmware.
3. Locate the firmware that is stored in your hard drive.
4. Once located, click the Open button.
5. Back in the web configuration menu, press the Start button (next to the Http Upload's browse button) to execute the upgrade process.
6. Please wait while the device updates itself with the firmware.
7. After the update process is finish, you will be taken to a web page indicating that it was successful (see figure below).

Note: For consistency, it is recommended to perform a flash clean every time you update the firmware on the WG2608. However, you will lose all the settings configured on the WG2608 except Network configuration. For more details on flash clean, please refer to section (number) below.

Provision Server

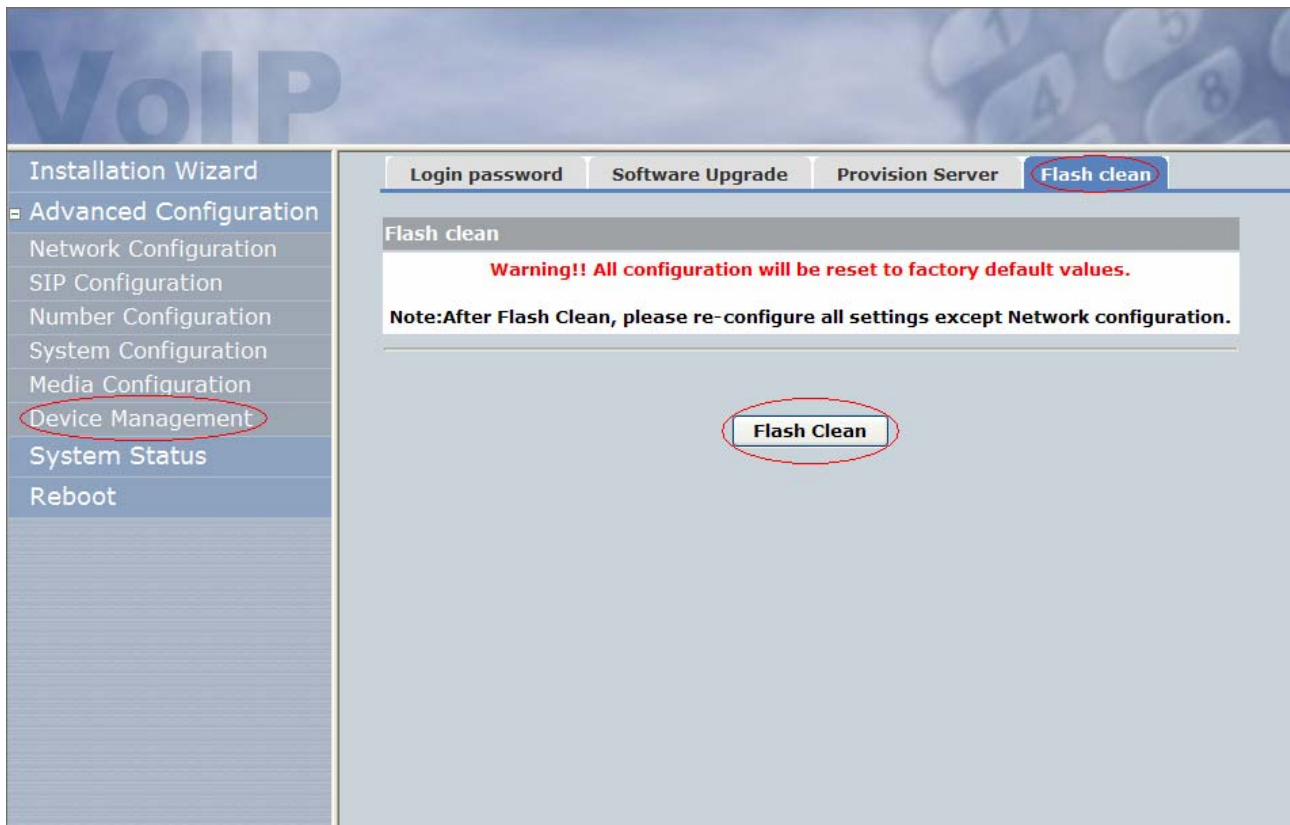


The screenshot shows the 'Provision Server' configuration page. The left sidebar lists various configuration options, with 'Device Management' highlighted. The main area has tabs for 'Login password', 'Software Upgrade', 'Provision Server', and 'Flash clean'. The 'Provision Server' tab is active, showing fields for 'Provisioning server IP address', 'Provisioning server user name', 'Provisioning user password', and 'Provisioning cycle time'. An 'OK' button is at the bottom.

Provisioning server IP address	Specify the Provision Server's IP address.
Provisioning server user name	Specify the username to login to the provisioning server.
Provisioning user password	Specify the password associated to the username of the provisioning server above.
Provisioning cycle time	Specify the cycle time of the provisioning.

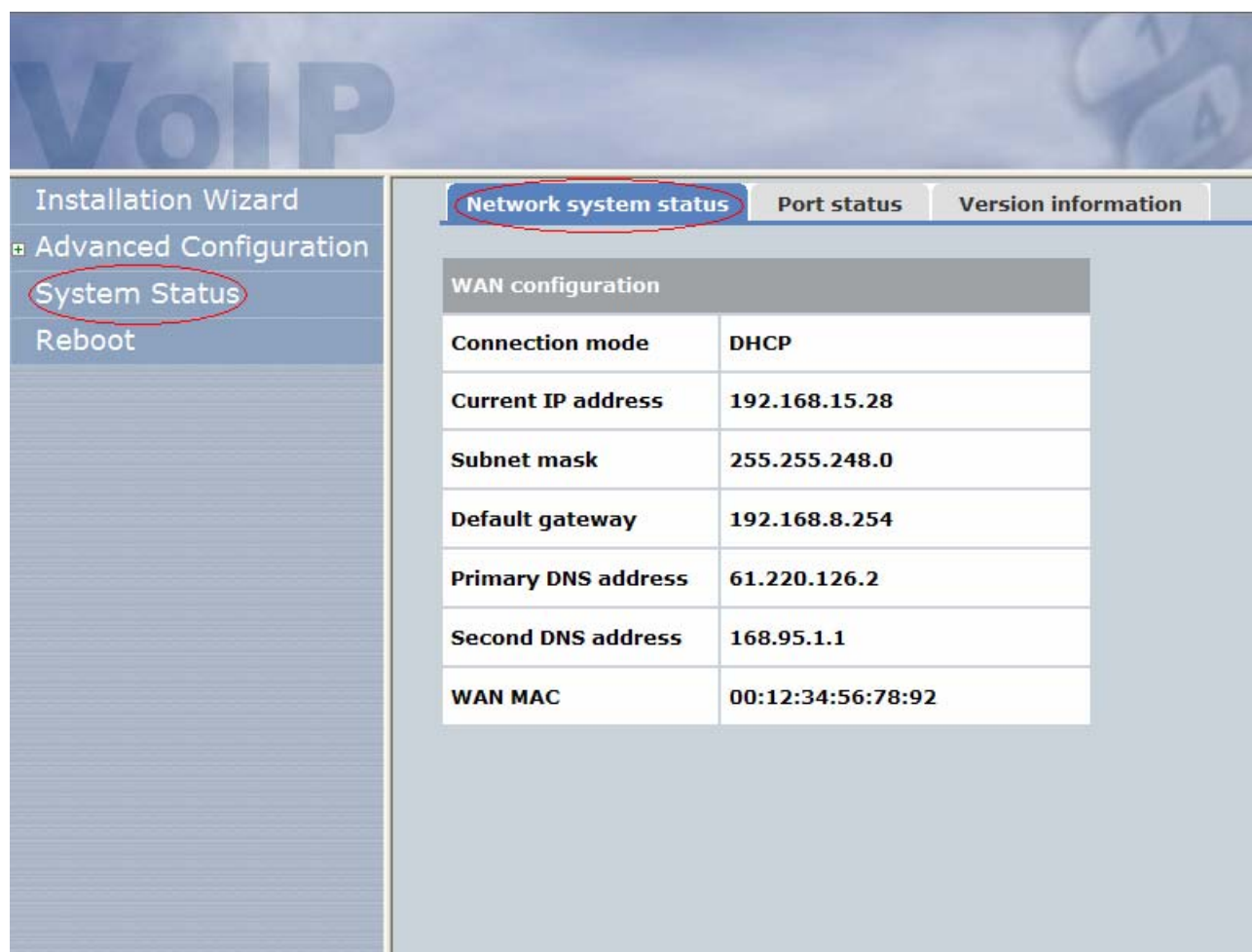
Flash clean

Users can restore back to factory default settings using this feature. The password of the account and the network configurations are the things that will not be changed when this feature is executed.



System Status

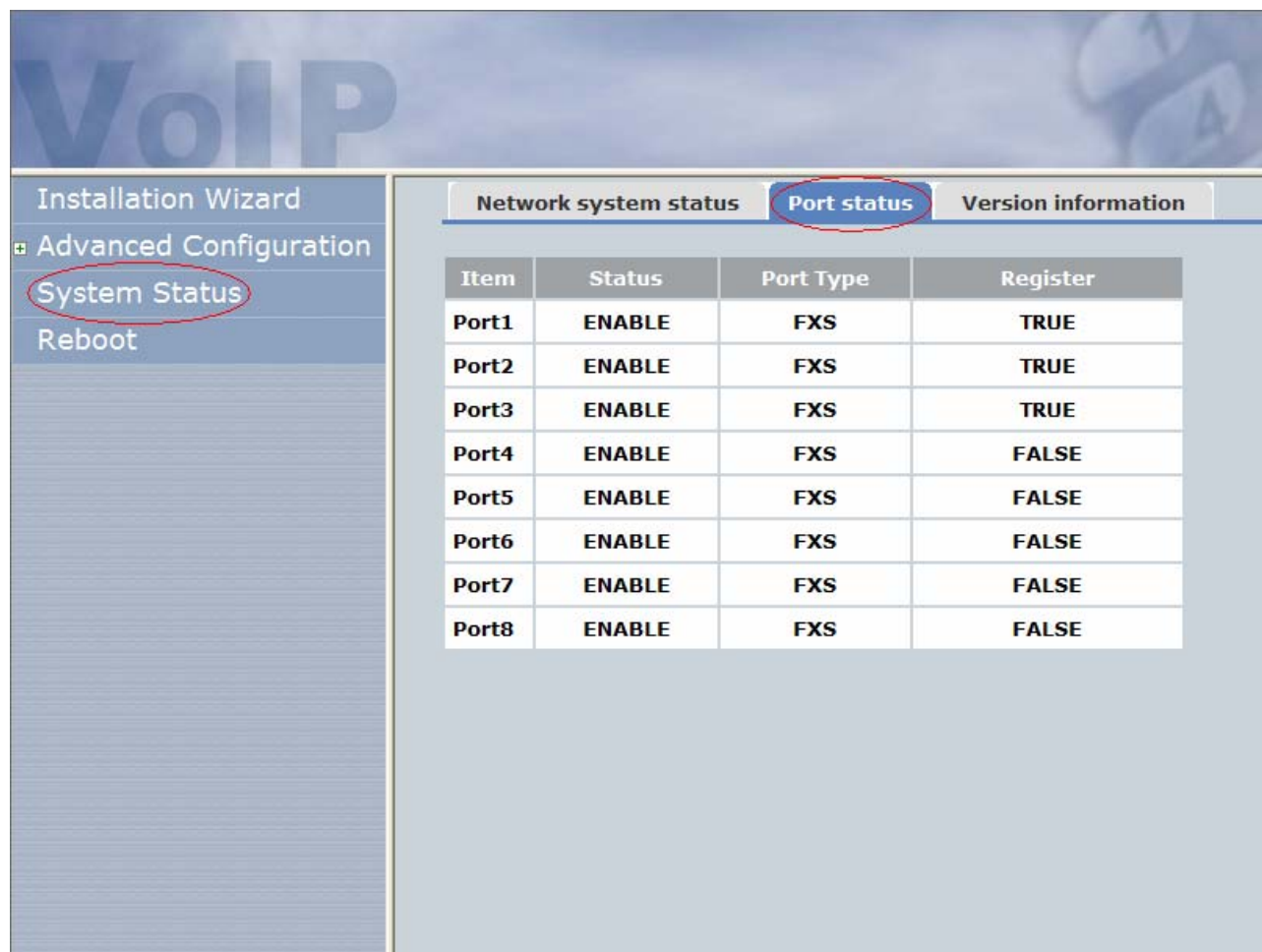
Network system status



Connection mode	Displays the current connection mode.
Current IP address	Displays the current IP address of the WAN port.
Subnet mask	Displays the current subnet mask's IP.
Default gateway	Displays the current default gateway's IP.
Primary DNS address	Displays the current primary DNS address.
Second DNS address	Displays the current secondary DNS address.
WAN MAC	Displays the MAC address of the WAN

port.

Port Status

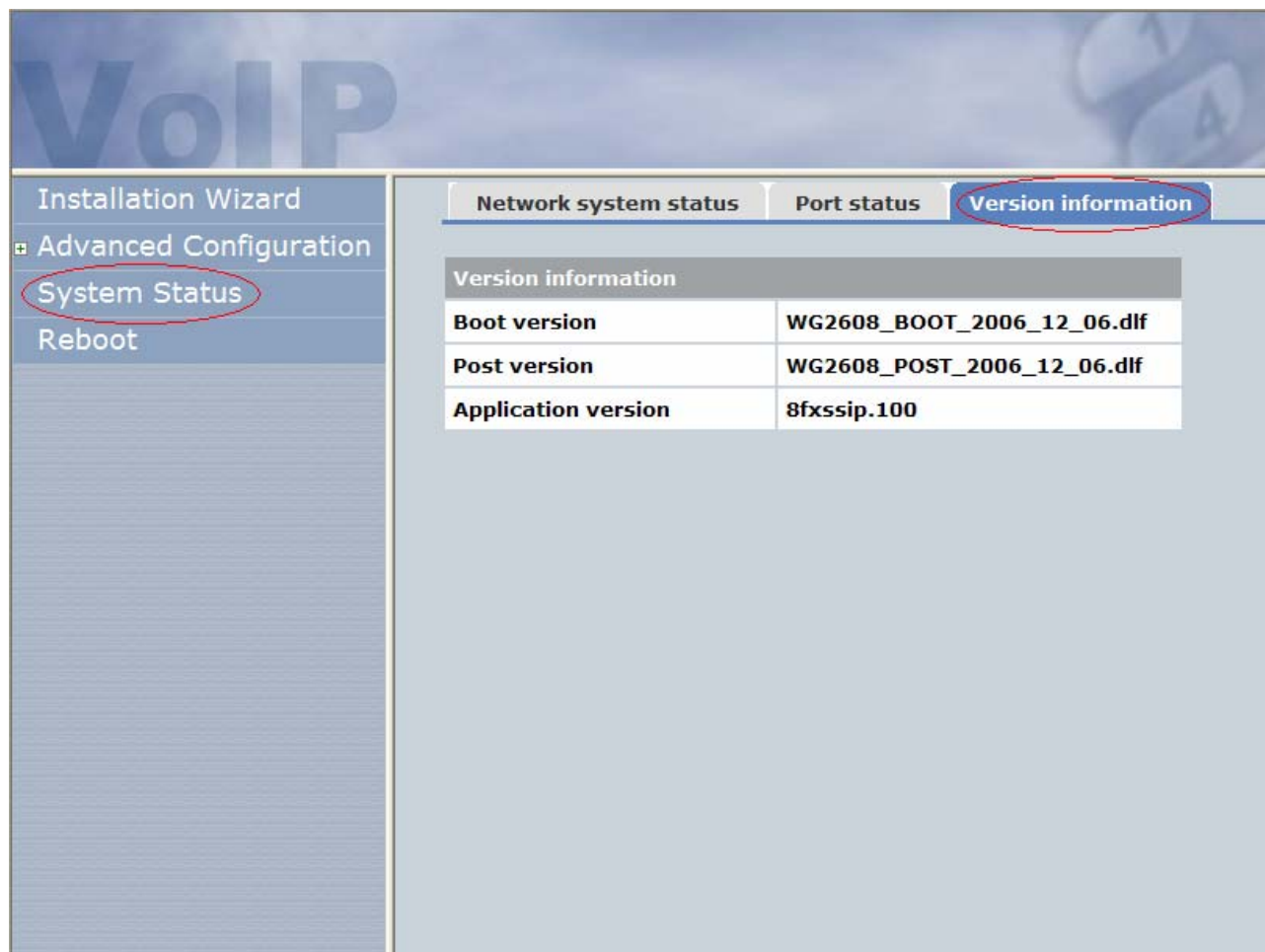


The screenshot shows the 'Port status' tab in the configuration interface. The left sidebar has 'System Status' highlighted. The main content area contains a table with the following data:

Item	Status	Port Type	Register
Port1	ENABLE	FXS	TRUE
Port2	ENABLE	FXS	TRUE
Port3	ENABLE	FXS	TRUE
Port4	ENABLE	FXS	FALSE
Port5	ENABLE	FXS	FALSE
Port6	ENABLE	FXS	FALSE
Port7	ENABLE	FXS	FALSE
Port8	ENABLE	FXS	FALSE

Item	Displays the corresponding port number.
Status	Displays the status of the port.
Port Type	Displays the port type of the corresponding port number.
Register	Displays the registration status of the corresponding port number.

Version Information



Version information	
Boot version	WG2608_BOOT_2006_12_06.dlf
Post version	WG2608_POST_2006_12_06.dlf
Application version	8fxssip.100

Boot version	Displays the current boot version loaded on the WG2608.
Post version	Displays the current post version loaded on the WG2608.
Application version	Displays the current application version loaded on the WG2608.

Rebooting the system

Executing this function will reboot the whole system, when configuration changes are made to the device, it needs to be rebooted for the changes to take effect (see figure below).

